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A STUDY OF ORIGINS;

OR,

THE PROBLEMS OF KNOWLEDGE, OF BEING, AND OF DUTY.

BY

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"JESUS CHRIST: HIS TIMES, LIFE, AND WORK," "THE EARLY YEARS OF CHRISTIANITY," ETC

SECOND EDITION.

New York

JAMES POTT & CO., CHURCH PUBLISHERS

14 AND 16 ASTOR PLACE

1883

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PREFACE.

It is due to my readers that I should explain how I was led to enter on the discussion of the philosophical and scientific questions of the day. At the time when I was preparing the revision of my History of the first three Centuries of the Church, I was struck, more than I had ever been before, with the increasing vehemence of the attacks made, not only on Christian theism, but on the very foundations of spiritual religion. If we are to believe the men who come forward as the recognised organs of the scientific world, we must conclude that all that has been affirmed by the disciples of the Gospel and the philosophers who believe in a God, in the soul, in a future life, in the morality of duty, is but an empty dream. Our aspirations after a higher world are, to use the figure of one of this school, but as dead leaves whirled aloft into the air, which fall back upon the hand that flung them. Everything is to be reduced to energy, ever transmuted yet ever the same. That which we take to be thought and consciousness is nothing more than a combination of associated sensations. Although these oracular assertions did not for one moment

shake my own conviction of the reality of the moral and divine absolute, because that conviction is based, not only upon my own experience, but upon a supreme and indisputable necessity of thought, I yet felt desirous to gauge the true position of things and of minds in relation to things. It became evident to me that the victory so loudly vaunted in the camps of materialism was really more disputed than ever, and that we were in the thick of the fight. Those who assert that science has pronounced a final verdict on the world of mind and of conscience, interpret facts by their own wishes. They expect from science that which, with all its brilliant discoveries, it cannot give; for its domain is strictly limited by the conditions of existence, and it is not competent to affirm anything on questions of origin and of first principle. Its proper task is a sufficiently glorious one. To assert, as Haeckel does, that the first cause is now understood, that the system which he calls *monism* because it recognises only one principle of things—pure force—is now established on evidence which places it beyond dispute, and that the time is come to teach it to children in the form of a catechism, is to dogmatise instead of demonstrating. However eminent the services rendered to science by this great physiologist, this mode of promulgating his theories would be only the substitution of an authoritative irreligion for the religion of authority, and the promotion of a materialistic fanaticism at least as extravagant as any fanaticism of the theists.

Nightly in our great cities, we may hear the Boan-

erges of atheism thundering this *credo* into the ears of a listening crowd as ignorant as their supposed teachers. It behoves us then to call attention to the fact that independent science protests no less distinctly than spiritualistic and Christian philosophy, not merely against these vulgar saturnalia, but against the premature triumph which materialism claims for itself in its popular manuals of science written with much fluency and skill, and in high-sounding newspaper articles. It is admitted by all serious thinkers that matter is that which is least understood, because we can never reach it directly, but only through our sensations, which modify it. It follows that those who assert that in confining themselves to the material they are on safe and solid ground, really have their feet upon a cloud. It must be understood that independent science, even that which stands apart from all philosophical and religious schools, repudiates the claim of materialistic transformism to assign the origin of life and of mind to pure force; and that in reference to this question of origins it adopts Dubois-Reymond's famous motto—*Ignoremus*. A few months ago, at the Anthropological Congress held in Frankfort, the illustrious Virchow, while admitting the eminent services rendered by Darwin to the study of biology, contrasted the severe methods of experimental science with the superficial and even foolish manner (we quote his own words) in which first principles are treated to-day by the advocates of materialistic transformism, who "find it easier to write pages of a manifesto teeming with hypotheses, than to study

a cranium." While independent science has thus spoken out both in Germany and France, philosophy has not stood aside from the combat. It has done its part bravely in France; not a single attack has been made upon the bases of theism which has not been ably met. Books like M. Janet's "Causes Finales" and M. Caro's brilliant essays upon the same themes, show how deeply our philosophers have gone into the great scientific problems of the day.

It is this conflict between the thinkers of our age which I have tried to bring before my readers in the present work. I have been encouraged in my attempt by seeing the same thing done from an opposite stand-point by authors having no greater professional competence than my own. My sole aim is to give a faithful account of this battle of the advanced guard in which the highest interests of humanity are involved. I have endeavoured to be at once impartial and clear in stating the views held by those from whom I differ. I have been careful to avoid personalities in discussing opinions. (I have always borne in mind that a man is often much better than his theories.) There are atheists who would make one believe in God by the nobleness of their character and their life. Unhappily there are also professed believers who would make one doubt of Him by their intolerant and unfruitful lives. For the materials of my argument I have only had to draw from the able and extensive writings of the most eminent representatives of independent science and contemporary philosophy I have endeavoured to show how decisive and

complete their reply is on all the great questions under discussion in our time, whether in reference to the problem of knowledge, of being, of man, or of the origin of morality and religion.

This spiritualistic reply is not of modern origin any more than are the negations of atheism. On some essential points it is the same as in the days of Aristotle, who was perhaps the greatest metaphysician the world has ever seen, and whose vindication of the final and formal cause has never been surpassed. His theory of potential being carrying us back to the eternally actual and living Spirit, is as fresh to-day as are the immortal pages of Plato on moral certainty. The demonstration of the principle of causation by Descartes, so largely expanded by the French critical school of our day, survives intact all the polemics of the new psychology, English and German. There was a necessity, nevertheless, as I hold, that the too exclusively intellectual element in Cartesianism should be corrected by giving larger scope to what Kant calls the practical reason, which is identified with the moral consciousness.

I freely avow myself a disciple of that great critical school which has renovated our mode of thought. I am persuaded that, in spite of the charge of scepticism brought against it, it supplies the best element of certainty, an element no less solid than duty itself, enforced at once as a matter of evidence and of obligation. The school of Kant has moreover been supplemented by the comprehensive psychology of Maine de Biran, transmitted to us by Ernest Naville, after Cousin. This is

exerting a growing influence upon the French school, to which it has given a wholesome impulse. M. Charles Secrétan, to whom I have inscribed this work because I owe to him my initiation into the study of the higher philosophy, is a brilliant and independent representative of the same school. It was my privilege to attend the lectures at Lausanne, in which he first expounded that philosophy of liberty which he has since expanded into his great book. This work will show how much I am indebted to him, as to so many of our great French philosophers, whether of the broad Cartesian school which has so long prevailed in France, or to the somewhat mystical school of M. Ravaisson, or to the bold critical school of M. Renouvier. I have tried faithfully to acknowledge in the text my obligations to all these writers. I do not single out any here, lest I should make invidious distinctions. If I were to make one exception, it would be in the case of Claude Bernard, the grandest representative of truly independent science, who has formulated in a masterly way that experimental method, the conscientious employment of which suffices to refute dogmatic assertions that are unsustained by facts.

I have appealed only to the authentic exponents of science for a solution of the problem of origins. I admit and would fully vindicate the complete independence of science. I maintain that it cannot recognise any authority whatever which would fetter it in its course of free inquiry. Neither the Bible nor the Councils have any prescriptive right to control science; but on the other

hand it is equally bound not to receive the arbitrary commands of any of the exponents of vaunted free-thought. To think freely, is to lay aside all prejudice and to accept simply the results of experience. I am increasingly convinced that experimental science is in no way hostile to the principles of theism. It is not the province of science to demonstrate those principles; all that can be fairly asked of it, is to recognise their possibility. When once this possibility of a divine and moral world is granted, other processes of experiment, adapted to the nature of the subject, supply its demonstration; the way is open. This is the conclusion to which I would bring my readers. Once thoroughly established, this conclusion suffices to secure to humanity its most precious possession—that higher life, apart from which man misses all that distinguishes him from the brute, and is without any light beyond the grave, without any compass on his voyage through life, without morality, without law, without liberty, given up to the chances of brute force, a hopeless and degraded thing. I refuse to accept such a horoscope for humanity. If indeed the first and final term of the world's history were force, I should be a pessimist of the sombrest dye, both as regards society and the individual. An atheistic and materialistic democracy seems to me a very hell upon earth. I should regard public liberty as a mere mockery, if I believed that man is inwardly a slave, hopelessly entangled in the universal mechanism. Liberty built up on such a foundation would be but a delusion and would quickly end in the most abject despotism—whether democratic

or aristocratic, would be of little moment. I am well assured that bad principles produce bad actions and bad institutions; because I have too high an idea even of misguided man not to believe that he *is* really as he *thinks*. A nation cannot be taught with impunity that the moral law is a mere fiction, that duty is but interest disguised, and that, apart from sensation, there is nothing. I am altogether lacking in the breadth of mind which regards these theories as indifferent or simply curious; to me they are deadly and degrading. If they were true, we must needs acquiesce in them; but life would then be nothing better than a miserable farce. Happily they are not true; they are gratuitous hypotheses which bewilder us only by their noisy repetition. They are contradicted by the most indisputable results of science and philosophy, not to speak of the rock of conscience on which they must ever split.

This is what I have tried to show, taking as my authorities the greatest minds of our age. I am one of those who believe in liberty as the surest safeguard of the truth. To attempt to defend religion and conscience by any other means than free discussion, is to belie them. The insidious doctrine of "liberty for the good alone" seems to me essentially evil; for the good must be in doubt of itself when it wishes to gag the lips even of error. Through my whole public career I have steadily advocated the complete enfranchisement of conscience, and for this I shall ever plead. I desire to see this freedom carried to its furthest issues. It is my one aim to dedicate all the remaining energies of my life

to the vindication of the highest truths of morality, apart from which I foresee nothing but ruin and dishonour for my country and irremediable loss to that soul of man which is to live on when all public institutions shall have passed away like a tent set up for a day. I shall be truly happy if this book, written in all good faith, may, in spite of its imperfections, do something to dispel the fatal misconception that science and conscience, liberty and religion, are incompatible. Such an error may well be fatal to the life of a country and of a people.

E. DE PRESSENSÉ.

October, 1882.

TRANSLATOR'S NOTE.

THE Translator wishes to express her great obligations to Donald MacAlister, Esq., M.A., Fellow of St. John's College, Cambridge, for his kindness in revising the proof sheets of the English Edition.

CAMBRIDGE.
December, 1882.

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THE PROBLEM OF KNOWLEDGE.

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Knowledge and Positivism.

The Positivist School repudiates all inquiry into origins. Task assigned by it to science—the verification of facts ascertained by experience and their relations, setting aside all explanation of them. The positive state of the human mind has superseded the two previous states—the religious and the metaphysical. The study of the ego entirely subordinate to that of the external world. Psychology subsidiary to physiology.

Reply.—1st. Inquiry into causes a universal tendency; a constant human fact, therefore a positive fact.

2nd. The permanent coexistence of the three religious states—the religious, the metaphysical, and the positive—demonstrated by history.

3rd. These three states are three aspects of things, all equally necessary for embracing things in their totality. Religion an effort of the soul to come to God. Metaphysics occupied primarily with the investigation of causes. Natural science deals with positive facts. It is supreme in its own domain. The progress of true science consists, not in suppressing any one of these elements, but in making all concur to one common end—by a harmonious division of labour.

4th. Positive science cannot dispense with the co-operation of the subjective; for, apart from reason, it could not formulate a single law, or draw the smallest deduction. Sensation can give nothing beyond itself, and is limited to the actual. The large part taken by hypothesis in science the proof of this co-operation of mind.

5th. Positivism has failed, as a matter of fact, to adhere to the rigour of its principle, which precludes any explanation of things, the materialistic no less than the spiritualistic. On the one hand, in Auguste Comte and J. Stuart Mill it has risen above its proper sphere, allowing scope to the

humanitarian or religious sentiment. On the other hand, in M. Littré it has exhibited a steadily growing tendency to endorse the materialistic solution of the question of origins . . . . . pp. 3–30.

CHAPTER II.

The Problem of Knowledge and the New Psychology in England, France, and Germany.

After the school which proscribes any inquiry into causes, comes that which seeks to explain away the principle of causation into the association or combination of sensations, since it recognises no *a priori* in the human mind.

I. *The new English Psychology.*—Its fundamental paradox—that having affirmed that there is a domain of the Unknowable, it proceeds to give an exhaustive explanation of all things.

1. *Stuart Mill.*—Stuart Mill anticipated by David Hume, who accounts for the principle of causation by the constant succession of phenomena verified by experience.

Laws of associationism formulated by Stuart Mill. 1st. Similar phenomena tend to be thought of together. 2nd. Phenomena which have either been experienced or conceived in contiguity tend to be thought of together. The contiguity is of two kinds: simultaneity and immediate succession. 3rd. Associations produced by contiguity become more certain and rapid by repetition. From this so-called inseparable association arises the idea of causation; the one appears to us to produce the other. Possible sensations form a sort of permanent reservoir for the mind, outside of ourselves; and this gives us the idea of the external world and of substance. The idea of the ego results from the contrast between present sensation and the sum of possible sensations outside of ourselves.

Reply.—1st. It is an impossibility for sensation, which is transient and evanescent, to formulate laws and to construct a theory of knowledge. 2nd. Sensation by itself never gives us the possible, which is beyond its grasp, but only the actual. 3rd. The fact of succession does not give the idea of cause, which is something altogether different, since it is possible for two phenomena to follow each other invariably, and yet for the one not to be produced by the other. 4th. The association of sensations never produces by itself co-ordinated ideas, as is shown by the incoherency of dreams. 5th. The ego cannot be the mere result of association; the co-operation of mind is indispensable to produce an association of ideas; a sum does not add itself up. The fact of consciousness is implied in the distinction between the subject and the object. Stuart Mill himself recognises in the fact of memory a persistence of the ego which distinguishes it from mere sensations.

2. *Herbert Spencer.*—Herbert Spencer supplements Stuart Mill, by his theory of evolution, or of the persistence of force which can neither be augmented nor diminished, but only transformed, and which is ever tending to differentiate itself. The intellectual life at first confounded with the physical, but steadily progressing from the reflex action of the infant to the intricate reasoning of the adult. The accumulation of experiences and hereditary transmission contribute to the evolution of intelligence, modifying at once the brain and the intellect inseparable from it. Thus that which we take to be the *a priori* of human reason, is really the result of experience.

Reply.—1st. Impossibility of explaining mental activity by a mere external influence. The mind shows its activity in the power it has to combine and associate. 2nd. The idea of time and space does not result from our experience of the duration or coexistence of phenomena, for these two great ideas could not be evolved unless they were already latent in the mind. 3rd. Evolution gives no explanation of progress, it only brings out that which was contained in the original phenomenon. One of two things: either the phenomenon originally included mind, and then it was not mere force; or mind has been superadded, and in that case again force is not the sole explanation of all things.

II. *Psychology of M. Taine.*—M. Taine's psychology the same in substance as the English theory of association.

Genesis of Ideas.—1st. Sensation. 2nd. The image which is the prolongation of sensation. It has a substitutive value, recalling the whole group to which it belongs. 3rd. Proper names are signs representative of images. The idea thus formed by generalisation after generalisation, is a pure abstraction, whether it deals with matter, which is to us only the possibility of receiving new and identical sensations under analogous conditions, or with the ego which is only the last term of the abstraction—a pure phantom. The physiological basis of this idealism is, that mind and body are but two aspects, the obverse and the reverse, the outer and inner side of one and the same abstraction.

Reply.—1st. The physiological basis which is to sustain the entire edifice of knowledge, being, in M. Taine's psychology, only a chimera, a hallucination, the influence of the physical upon the moral is *nil.* 2nd. Impossibility of reducing the ego to a mere negation if we are to concede to it the power of generalising, combining, abstracting. 3rd. The gulf impassable to the intellect, which exists between motion and the consciousness of motion, recognised by M. Taine. Their identification therefore impossible.

III. *The New German Psychology. Materialistic and Sceptical Theories of Knowledge.*—Herbart the precursor of the New German psychology. His attempt to measure the phenomena of consciousness by mathematical laws, so that our representations may be considered as forces, sometimes balancing, sometimes outweighing each other in intensity. Beneke and Lotze recognise the existence of the soul, of the active ego, while attaching great importance

to the *local signs* which visual and tactile impressions leave behind them on the points where they are produced. Complete correlation established by Fechner between sensations and their stimuli. Uncertainty of his calculations, because the measure used is too coarse to appraise so delicate a phenomenon as sensation. Mechanical logic of Wundt. "Unity of consciousness," he says, "results from the purely mechanical unification of sensations, from which in the end ideas are deduced." Arbitrariness of his attempt to measure physiological time. Wundt, like Fechner, recognises in the mental life a mysterious and wholly irreducible power.

Theory of Knowledge founded upon Pure Materialism.—Matter is never apprehended directly, but only through sensation that is already transformed and modified. Conclusion of Lange's *History of Materialism* thus formulates it. Matter is essentially the Unknowable. Scepticism cannot affirm without denying itself. It renders science impossible. Spiritualistic affirmation of Stuart Mill and Lange . . . . . pp. 31–75.

CHAPTER III.

THE PROBLEM OF KNOWLEDGE AND THE CRITICAL SCHOOL IN GERMANY AND FRANCE.—HARMONY OF CARTESIANISM AND KANTISM SUGGESTED BY MAINE DE BIRAN.

After the school which proscribes all inquiry into causes and that which explains away the principle of causation, comes the Critical School, which distinguishes reason from the world of phenomena, and does not admit that reason can ever arrive at the reality underlying the phenomenal. This was a reaction against the exaggerations of Cartesianism. Possibility of harmonising the two schools.

I. *Descartes and Kant.*—The criterion of evidence given by Descartes correct, for at the basis of all knowledge is the intuition of the thing in itself. Descartes has given the true formula of the principle of causation, in establishing that the greater cannot come from the less. The idea of perfection which exists in the imperfect ego implies a principle of perfection. The error of Descartes, exaggerated by his school, was in making perfection to consist primarily in the intellect, as in his famous motto, *Cogito, ergo sum.* Imperfection of the simply intellectual idea of the absolute. It does not grant to the absolute the power of self-limitation, and hence it involves the negation of liberty. Pantheism of Spinoza.

Kant's philosophy a reaction against this metaphysical intellectualism. Kant holds that we cast all things by an inward necessity into pre-existing moulds, and thus impart to them a wholly subjective character, so that we cannot apprehend the thing in itself. The "*Ding an sich*," or *noumenon*, always eludes us because of this subjective element blending with all our supposed knowledge, whether of God or of ourselves. Faultiness of all the

old proofs of the existence of God, certainty arrived at by the practical reason in the categorical imperative. This restores to us, as a postulate, faith in an immortal soul and a just God.

The inconsistencies of Kant.—He has not always adhered to his metaphysical subjectivity. His theory of the beautiful implies a real purposive cause in nature. Evil being, in his system, the abnormal predominance of the sensible world, this must have some reality. The law of duty demands a real world for its realisation, or it becomes itself chimerical. Practical reason raises us up to the holy God. Hence His veracity, which saves us from universal illusion.

II. *Maine de Biran.*—Maine de Biran takes us beyond the subjectivity of Kant, by showing that the great intuitions of the reason,—such as the ideas of substance, of causation, and of time,—are confirmed by the persistence of the ego, which feels its own identity through all its variations, and is conscious of activity and of successive acts. The originality of his theory is the idea of effort, by which the ego distinguishes itself from the non-ego, and overcomes the resistance of the body. The will called into play by this effort ; in its higher forms this action of the will becomes first attention then reflexion. The will becomes the chief motor of the intellectual as of the moral life. Maine de Biran needs to be supplemented by Kant. He assigns too large a part to the experience of the ego, and not enough to the *a priori* of the reason, which experience confirms but does not create.

III. *French Criticism.*—This goes even farther than Kant, and denies the very existence of the *noumenon*. The French school of criticism a legitimate reaction against metaphysical fatalism. Possibility of our arriving at liberty as an absolute principle . . . . . pp. 76–102.

CHAPTER IV.

The True Solution of the Problem of Knowledge.—Review of the Preceding Chapters.

I. *Genesis and Development of Knowledge.*—Sensation only furnishes ideas by being prolonged in the memory, and by means of the great operations of the mind, which enable it to compare, to abstract, and to generalise. The co-operation of the reason is necessary to formulate laws and perceive their connexion. The external world, then, is only perceived by the understanding. It is only known to us through the modifying medium of our sensations. We get only a translation of it, but a faithful translation. The ego, becoming conscious of itself by the act of the will induced by the effort which leads it to distinguish itself from the non-ego, recognises in itself both reason and conscience with their axioms. The principle of causation, which is the fundamental axiom of the reason, carries it beyond itself to the primary and perfect Cause, of which it has the idea within itself in the

midst of its imperfection. "I am an imperfect thing, and I have the idea of perfection." The great Cartesian proof of the existence of God, elaborated by Fénélon, Bossuet, and Malebranche, retains all its force when, under the influence of Kant's criticism, it has once become permeated with the moral idea, and when the first principle is apprehended not as simply the unlimited absolute, but as absolute liberty.

II. *Share of the Will in Knowledge.—The Conditions of Certainty.*—1st. Attention implies an act of the will. 2nd. Every judgment which applies an attribute to a substance, implies comparison and choice. 3rd. Positive error always arises out of negligence, from the indolence of the mind which stops too soon in its inquiries. 4th. Moral truth is an obligation apart from its evidence. Intuition, which is the starting-point of knowledge in every domain, cannot be forced as if it were the consequence of a syllogism. 5th. Religious truth, which presents as its primary object a living person, demands love. The share taken by the will and by feeling in relation to truths of this order is based upon the fundamental law of experimental science, which, according to Claude Bernard, varies and adapts its modes of acquiring knowledge to the diversity of the objects to be known. The same law of certainty formulated by Clement of Alexandria, thus: *Like discerns like.* 6th. Universality of this law in its applications. pp.103–128

BOOK SECOND.

THE PROBLEM OF BEING.

CHAPTER I.

Origin of the Cosmos.

The Principle of Causation in the World.—The materialistic school ignores one of the most positive results of independent science, namely, that matter is that which we know least directly, and which is therefore least susceptible of definition.

I. *The Reign of Law in Nature.*—The actual state of our planet points us back to a long cosmical evolution, which has been carried on in harmony with the recognised laws of physics and chemistry, alike in the infinitely great and the infinitely little. Everything in the universe mathematically regulated; every result governed by weight and measure. The general laws of nature show a great purposive cause at work. Before evolution begins, there must be an impetus given. The same ordered thought observable in the inorganic world, still more clearly manifested in

the organic. The former arranged with a view to the latter, and both in view of the higher order of mind. The evidence of design manifest not only in the general but in the particular. The convergence of various phenomena towards one ulterior end implies design. Design manifested in generation and in the development of life. The organisation of the living being is a masterpiece of contrivance, revealing a governing idea. The governing idea identified by Claude Bernard with Aristotle's final Cause, existing primordially in a virtual or potential state and advancing onwards to form. The possible or virtual points us to a first principle for ever actual and living.

II. *The Formative Power in the various Kingdoms of Nature.*—Impossibility of passing by mere transition from one kingdom to another. The hypothesis of spontaneous generation demonstrated by science to be false. Mind cannot be evolved from mere physical life, nor this from inorganic existence. Beauty an end in nature . . . pp. 131–159.

CHAPTER II.

Older Objections to the Theory of Causation.

I. *Atomism.*—Democritus revived by Büchner.

Reply.—1st. To attempt any explanation of things, is, on the theory of atomism, a paralogism; for any explanation implies an idea in things. 2nd. The idea of order, of harmony, is incompatible with fortuitously whirling atoms. 3rd. Absurdity of arguing from properties inherent in atoms (*i.e.*, from that which reveals law) the absence of an intelligent Cause. 4th. Atomism has never demonstrated that force is inherent in matter, nor that force is capable of so regulating itself as to produce a cosmos.

II. *Organicism.*—Organicism excludes design, on the ground that the living creature has properties necessary to the fulfilment of its functions, and that all is explained by these properties, which produce the organs and set them to work.

Reply.—1st. The cells of which the living organism is composed are not the simple product of inorganic life. The organ, therefore, is not its own adequate explanation. 2nd. The properties of the organs reveal a purposive cause in their adaptation to their end. 3rd. The properties of an organ do not alone suffice to explain the disposition of the organs. The contractility of the heart would never have made it the complex organ it is. 4th. The co-ordination of the organs points us to a co-ordinating power as its cause. 5th. The life of the embryo, in which at the outset all the rudimental organs resemble each other, implies a presiding idea by which the development of the various types of animal life is governed.

Conclusion.—The final cause makes use of the efficient cause, but cannot be identified with it . . . . . pp. 160–170.

CHAPTER III

Objections Founded on the Conservation and Transformation of Energy.

The axiom that energy is always identical with itself under all its transformations, opposed to design.

Reply.—1st. The formula, "*Nothing is created, nothing lost,*" is not an axiom. The first clause is open to question, the second cannot be taken in an absolute sense. We see existence sinking into atrophy. 2nd. Distinction drawn by Aristotle between quantity, which must be always identical, and quality, which introduces the element of diversity and consequently of freedom of choice into abstract and uniform existence. Quality is capable of all imaginable variety. Hence freedom of choice among the various possibilities, and an element of contingency in the laws of nature, first, in producing the actual from the possible, and then in choosing between the various possible evolutions. 3rd. Difference between mechanical and spontaneous motion in the living organs. Distinction between quantity and quality in the motion of the living organism. Diversity of effects produced by the same sum of motions . . . . pp. 171–179.

CHAPTER IV.

The Doctrine of Evolution.—Transformism.

Distinction between evolution, as conceived by Darwin in his earlier writings and the mechanical transformism of Herbert Spencer and Haeckel. Evolutionism treats of the conditions of existence; transformism solves the question of origin in a materialistic sense. There is no necessary conflict between Darwin and theism. Incompatibility of materialistic transformism with Deism. Deism lies beyond the sphere of experimental science.

I. *The Doctrine of Evolution.*—The five laws which, according to Darwin, govern the transformation of species. 1st. Natural selection. 2nd. The struggle for existence, giving predominance to the strongest. 3rd. The law of heredity. 4th. Adaptation to environment. 5th. Co-ordination of organs. Design essentially implied in these laws, which could not of themselves so operate as to produce biological progression by means of evolution. This opinion expressed by A. R. Wallace, the precursor of Darwin.

Objections to Darwinism.—1st. Darwin's notion of a species very vague. 2nd. His system not borne out by actual experience. 3rd. Palæontology everywhere shows the distinction of species. 4th. The testimony of facts adverse to the universality of the law of adaptation to environment and to that of sexual selection. 5th. Artificial selection does not produce new types. 6th. Sterility of hybrids almost uniform.

Darwinism partially true as regards secondary transformations. Naudin's

hypothesis of an antecedent age in which the plasticity of the organism was greater than at present.

II. *The Monistic Theory of Transformation.*—Herbert Spencer resolves all evolution into the principle of the conservation of energy through all its transformations. The great laws of motion explained in his "First Principles." 1st. Motion follows the line of least resistance. 2nd. Reaction follows action, so that a period of aggregation will be followed by one of disaggregation. 3rd. The uniform passes into the multiform—the homogeneous into the heterogeneous. 4th. Separation—the application of the law of natural selection to living organisms. 5th. Co-ordination. 6th. Adaptation to environment.

Reply.—1st. The conservation of energy presented as an axiom, contradicts the first premisses of the system. 2nd. The transition from the homogeneous into the heterogeneous remains unexplained. 3rd. The production of life and of thought is not accounted for. Evolution can add nothing to the antecedent facts. It only brings out that which they contain. Either mind was already present in the primitive homogeneous, or it has been added subsequently. 4th. Herbert Spencer considers only quantity, and forgets quality. 5th. His law of co-ordination implies design.

Haeckel.—Importance attached to embryology. The human embryo passes through all the stages of the general evolution of animal forms. This is an argument for one general plan running through nature. Haeckel's "Evolution of Man" ends in a pure assumption. He is compelled to adopt the hypothesis of the spontaneous generation of the *Monera.* Protest of Virchow against this new *a priori.*

III. *Hegel's Theory of Immanence.*—The school of unconscious and consequently impersonal adaptation. Principle of adaptation inherent in things themselves. Mind produced by the dialectic movement of the everlasting Becoming. The greater explained by the less.

IV. *Schopenhauer and Hartmann.—Renan and Jules Soury.*—Earliest form of pessimism. The essence of being an unconscious will, never obtaining all that it desires. Hartmann's philosophy of the Unconscious. Exposition of his system. The "Unconscious constitutes the great All." Infallibility of instinct in the animal. Man owes all that is best in him to unconscious impulses. The immorality of history, which shows us the world without any moral government. Everything originates in the great Unconscious, who is at once the Idea and the Will. The Will blindly evolves the totality of beings from the Idea, without at all exhausting its potentiality. Hence a dull unrest. This unrest becomes conscious after the involuntary production of organised matter, and specially of the brain. For the first time the sorrow of the world is consciously felt. Consciousness struggles to free itself from it by concentrating itself in the human individual, who is to end by suicide, without any assurance that the whole mournful process may not even then be re-enacted.

Reply.—1st. The assumed infallibility of the Unconscious is fallacious, since, in producing the world at all, it has made a colossal mistake. 2nd. The production of consciousness is in no sense a deliverance, since it heightens the sense of suffering. 3rd. To attribute the manifestations of design in the world to the "Unconscious," where man recognises in himself conscious mind, is to explain the greater by the less. 4th. Exaggeration of pessimism, which is also the final outcome of M. Renan's "*Dialogues Philosophiques*," and M. Jules Soury's "*hylozoism*." If pessimism is a natural reaction from the optimism which ignores evil as a violation of natural order, it is nevertheless wrong in its principle and in its conclusion, for moral order is no illusion. . . . . pp. 180–238.

BOOK THIRD.

THE PROBLEM OF BEING (continued).

MAN.

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MAN IN HIS TWOFOLD NATURE.

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II. *Man Intellectually and Morally Considered.*—Man's three distinctive faculties—to know, to love, to will. Man begins with purely instinctive life. He rises into conscious life by an effort of the will. Effort, in its higher forms of attention and reflexion, reveals to him the laws of reason and of conscience, and then the principle of his being—God . pp. 241–255.

CHAPTER II.

THE RELATION OF THE PHYSICAL AND THE MORAL.

Identification of the physical with the moral by the materialistic schools. There is co-relation, not identity, between body and soul.

I. *The Brain and Thought.*—Materialistic theory developed in the writings of Luys, Maudsley, etc.

Reply.—1st. No experiment possible upon the operation of the human brain. 2nd. The theory of the localisation of the intellectual faculties is not conclusively demonstrated, and if it were, it would not imply the identifica-

tion of the function with the organ. 3rd. Impossibility of confounding cerebral motion with the consciousness of motion, by the admission of the greatest physiologists. 4th. The brain, which is essentially a multiple and divisible organ, cannot produce the unity of the ego. 5th. The measurement and weight of human brains establishes a certain correlation between the function and the organ; but at the same time shows a great distinction between them. Physiological analogy between the brain of man and of a monkey, notwithstanding the vast superiority of intellect in man.

II. *Objections drawn from the Idea of Motion.*—The materialistic schools identify all motion with reflex motion, in order to maintain the universal supremacy of mechanical laws.

Reply.—1st. Motion is not merely reflex and mechanical, but often deliberate and voluntary. 2nd. Reflex motion in the living organism is not simply mechanical; it obeys the instinct of self-preservation. 3rd. Motion in the living organism often remains latent and potential. It is not, then, subject to a mere mechanical impulse. 4th. Forces may remain identical in quantity and yet may differ in the use made of them. 5th. Unquestionable share of the will and thought in disposing variously of the same amount of energy. The possibility of the future life a consequence of the distinction established between the moral and physical life of man. The conditions of the existence of the moral being may change, and yet it may survive.

Dubois-Reymond's seven enigmas of Nature . . . pp. 256–281.

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Man and the Brutes.

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II. *Instinct and Intelligence.*—Reality of instinct disputed by the materialistic schools, which trace everything to sensation in the living organism. Possible modification of instinct. These are brought about in the animal through the influence of sensation or in consequence of modifications either of the organism or of the environment. Man alone attains to conscious and voluntary life; to reason, which grasps the universal; to conscience, with its categorical imperative. His highest attribute is the free exercise of the will. Proofs of this distinction between man and the brutes drawn from the analysis of animal instincts . . . . . pp. 282–306.

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Language: its Origin and Influence on Knowledge.

The brute has a language to express his sensations, but he never rises to speech. The language of the brute purely instinctive. Speech a voluntary

act of the conscious life. Various forms of speech; the play of the features, gesticulation, articulate language the most perfect instrument. Essential differences between the speech of man and the language of the brute. 1st. The use of words implies abstraction and generalisation, which are two operations of the reason, by which a thing is grasped by some one special characteristic. 2nd. Words do not merely express sensation, but designate the object to be known. Words are instruments of knowledge. The internal word makes the mind conscious of itself. The external word is the great social bond and the chief instrument of human progress. The word rises progressively from the cry to conscious and rational speech. Impossible to account for it as a product of mere sensation or of sexual selection. Man did not receive language ready formed. He was made capable of speech. Words originate in the symbolism of Nature, which was more vivid at first than now. Three stages in the evolution of language—the monosyllabic period; the period of agglutination; and lastly of inflexion. Origin of writing . . . . . pp. 307–322.

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Human Society and Animal Societies.

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II. *Refutation of the Sociology of Positivism and of the Recent German and English Psychology.*—Positivism connects sociology closely with the physical sciences. Auguste Comte's refutation of himself. His latest sociological theories go far beyond his biology in their humanitarian mysticism. Exclusivism of Buckle and Bagehot. Elimination of the higher elements of human society. Sociology of Herbert Spencer. Application pure and simple of the principle of the transformation of force to society. Absolute assimilation of the body politic to the human body. Objections.—1st. Impassable distance between the physical and the moral. 2nd. Impossibility of confounding simply instinctive life with life conscious and reflective.

III. *Animal Colonies and Societies.—Perrier and Espinas.*—Spiritualistic basis of Perrier's system. Every living organism constitutes a colony, a society of cells. Exception made in the case of the human ego, which is not the simple resultant of the separate consciousnesses of the members of the colony. This exception not admitted by Espinas. He holds, on the one

hand, that every living organism constitutes a society of cells, each cell having its own individuality. On the other hand, he regards human society as a vast collective individuality with a unity of consciousness. This theory incompatible with the true idea either of society, which implies the concurrence of distinct individualities, and with the idea of individuality which demands the real unity of the consciousness. The three stages of social life those of nutrition, reproduction, and relation, common, according to Espinas, to animal and human societies. Wonderful transformation of these three stages of the social life under the influence of the free and conscious life of humanity . . . . . pp. 323–361.

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THE PROBLEM OF DUTY.

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Principle and Origin of Morality.

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II. *Refutation of the Morality of Self-Interest.*—1st. Refutation of utilitarian theories by one another. 2nd. Utilitarianism does not explain but ignores the fact of moral obligation. Reality of the obligation proved by universal human feeling; by remorse, indignation, admiration of heroism, by great social facts, such as law and penal justice; lastly, by all great poetry. 3rd. The various elements which constitute the fact of obligation are irreconcilable with utilitarianism. Obligation implies: 1st. A law, an ideal; 2nd. A law bearing upon the motive of our acts; 3rd. A law enforced by a direct sanction in our own consciousness; 4th. A law which is really intuitive and antecedent to experience. Failure of utilitarianism to satisfy any of these conditions of a true morality. The law of adaptation to environment, as stated by Herbert Spencer, destroys the principle of obligation. This principle commands us repeatedly to run counter to our environment.

III. *Determinism and Free-will.*—The primary duty of man is to believe in duty; this obligation is decisive in all conflicts between the conscience and speculative reason. No essential contradiction between the one and the other.

The distinction of quantity and quality sets us free from the fatalism of the laws of motion. Motion must have a prime motor which is distinct from it and controls it. The determinism of nature is not the first

beginning of things, any more than is the dialectic determinism of the reason. At the starting-point of all science is an intuition which grasps the first principle, or there remains an ever-receding mystery. This is true emphatically with regard to morals. It is erroneously objected that the will is determined by the desires, for these are not irresistible.

Man's freedom limited but not destroyed by the fact of solidarity. The result of solidarity traceable to free acts in the past. Arbitrariness of statistics in reference to particular cases. Heredity carries us back to the free acts of our fathers, and does not produce any absolute constraint. Freedom of action reduced to a mere idea by M. Fouillée. Even in this limited view it is not explained. The idea of freedom of action cannot be produced by universal mechanism.

IV. *Independent Morality.*—Morality is never independent, as a matter of fact, of the general conception of things. Moral obligation alone carries us beyond ourselves, making us feel ourselves part of a great whole, and therefore bound to fulfil our duties to the whole and to its principle, which is God. Our morality is modified by our conception of this whole, and of its author. Essential difference between altruism, transformism, and unselfish love.

Incompatibility of the law of natural selection with the principle of charity. Too formal character of Kant's morality. Moral obligation reduced in French criticism to mere justice. How love ought to influence morality. Duty to God one with duty to man.

V. *Moral Sanctions.*—The sanction of the moral law is a postulate of conscience. This sanction is not the same thing as utilitarianism for the following reasons: 1st. Essential difference in the motives of our acts. 2nd. The sanction of the moral law is not pleasure but happiness, which is inseparable from the fulfilment of our higher destiny as members of the great human race. The sanction is only completed in the future life. Punishment is never a mere penalty, but always tends to the amendment of the guilty. Absolute opposition between the morality of pessimism and that to which the moral sanction is attached. Incompatibility of morality with the principle of an unconscious will. Duty, as defined by the pessimists, is an illusion. On Schopenhauer's theory pity is only a false semblance, for all distinction between the subject and the object is obliterated. Hartmann's morality the most pitiless possible. Utilitarianism and pessimism make common cause in the end . . pp. 365–419.

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The Ideal.—Art.

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II. *The Sense of the Beautiful.—Art, its Threefold Purpose.*—The beautiful inseparable in itself from the true and the good. Its proper character. Beauty the expansion of vital energy with harmonious co-ordination. Beauty in things results from the striking manifestation of their harmony. This harmony the full expression of the formal cause which has co-ordinated them as a whole. This formal cause points us back to God as the final Cause. Man must have the sense of the beautiful before he can discern it.

The formal and final Cause of the world finding its highest manifestation in man, man projects it on to the things around him. Hence anthropomorphism in art. Threefold mission of art. 1st. To realise the sense of the beautiful in nature by an exercise of choice, passing by some part of the reality in order the better to bring out the inner principle of beauty, the parent idea of form. 2nd. Creation of an ideal beauty from the type of the beautiful existing in the reason. Art is distinguished from morality, inasmuch as it produces only a representation. It is not the fulfilment of an obligation. It is absolutely disinterested, and thus distinguished from the useful. In this sense alone is art a pastime. 3rd. Third mission of art, to express regret at never being able to attain the ideal. Art goes beyond nature, and is not satisfied therefore with merely expressing natural beauty. Inadequacy in this respect of Hegel and Goethe's æstheticism.

The sense of the sublime points to something beyond the merely natural.

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Religion, its Nature and Origin.

I. *The Nature of Religion.*—Religion is not identical in its essence with any of our faculties. It is the effort of the whole nature to unite itself to God. It implies a divine influence at work in man. This ideal of religion sustained by the evidence of history. Intuition an essential element of religion. The religious and the moral sentiment closely conjoined. Essential elements of religion. 1st. Intuition of the infinite by all our faculties. 2nd. Sense of obligation. 3rd. Belief in a future life. 4th. Sense of guilt and longing after reparation, implying the idea of the supernatural. Inadequacy of evolutionist theories, even the idealistic, in all these respects (Hegel, Pflenderer, Réville). Hartmann's sarcasm on the shallow optimist view of religion.

II. *Various Explanations of the Origin of Religion.*—Inadequacy of the naturalistic explanation. 1st. In relation to the moral aspect of religion. 2nd. In relation to the idea of the infinite, which Max Müller confounds with the indefinite. 3rd. In relation to faith in a future life. Naturalism gives only the natural, never the divine. Insufficiency of such explanations as fear of the unknown, and fetishism. Impossibility of admitting that

fetishism is the origin of the idea of the divine, either from an historical or philosophical point of view. Explanations given by Herbert Spencer. The dream of the savage suggesting the idea of his other self. Exaggeration of the imbecility of the savage. He knows that he dreams. He does not really believe in his double, as is shown by his ideas of the future life, which is always more or less connected by him with his earthly life and conduct . . . . . pp. 437–466.

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Universality of Religion.—The fact of worship implies a distinction between the merely natural and the divine. High spiritualistic idea contained in animism. Rapid development of monotheism, showing that it underlies all primitive religious ideas. Proofs from facts in all religions of savages.

Universality of the Idea of the Future Life.—Development of the idea of retribution and of the moral idea generally. Prayer and sacrifice, the two great elements of religious rites, becoming purer and higher. Proofs supplied by Christian missions that the savage is capable, not only of religion, but of the highest degree of religious development.

II. *The Man of the Caves and Lake Dwellings.*—Brief sketch of discoveries of traces of prehistoric man. Man living certainly in the quaternary period. The three periods of the prehistoric era—the age of rough stone, the age of hewn stone, and the bronze age. The iron age is historic. The three races of the palæolithic age.

Geological crises through which the troglodyte passed with only his flint weapons. Progress traceable in these products of primitive industry: The use of fire—tilling of the soil—the family—religion—primitive art—burials. Social and religious state of the primitive Aryans shown by comparative philology. Religion of the ancient Mexicans. Conclusion. pp. 467–515.

BOOK FIRST.

THE PROBLEM OF KNOWLEDGE.

CHAPTER I.

KNOWLEDGE AND POSITIVISM.

BEFORE estimating the value of the various explanations of things, one preliminary question presents itself: Is it possible to explain them? This possibility is disputed in our day by the Positivist School, who recognise only the verification of facts and their relations, setting aside all explanation of them. They confine us to the question of the *how*, treating as chimerical that of the *why*. We cannot take one step in the path of inquiry, till we have removed this fundamental objection which bars the way.

Let us first define the theory of knowledge held by the Positivist School, as we find it in the works of its master, Auguste Comte, and in the commentaries of his illustrious disciple, M. Littré. The theory is very simple, and professedly based on the exact method of science. The province of science is to verify all that comes under direct observation, all the facts of experience, and to classify them without any regard to their origin and purpose, since these do not come within the scope of experiment and observation. The telescope sweeps the farthest fields of the visible; it brings before us what we might call the infinitely great. The microscope opens to observation the infinitely little; but the first and final causes lie yet beyond. Science has no concern with them. They belong to the domain of the inscrutable. Positivism neither

denies nor affirms anything with regard to them, for negation would itself be a theory of the origin of things. Materialism is a philosophy, and as such is beyond the scope of positive science; and this, we are told, is the boundary beyond which the mind of man cannot go.

Thought did not at first observe these stern limitations within the facts of direct observation. It passed through two preliminary phases, so broadly and clearly marked that they may be regarded as historical laws. Auguste Comte says: "From the study of the development of human intelligence, in all directions and through all times, the discovery arises of a great fundamental law, to which it is necessarily subject, and which has a solid foundation of proof, both in the facts of our organisation and in our historical experience. The law is this —that each of our leading conceptions, each branch of our knowledge, passes successively through three different theoretical conditions: the theological or fictitious, the metaphysical or abstract, and the scientific or positive. . . .

In the theological state the human mind, seeking to fathom the essential nature of being, the first and final causes (the origin and purpose) of all effects—in short, absolute knowledge —supposes all phenomena to be produced by the immediate action of supernatural beings. In the metaphysical state, which is only a modification of the first, the mind supposes, instead of supernatural beings, abstract forces, veritable entities (that is, personified abstractions) inherent in all beings, and capable of producing all phenomena. . . .

In the final, the positive state, the mind has given over the vain search after absolute notions, the origin and destination of the universe, and the causes of phenomena, and applies itself to the study of their laws; that is, their invariable relations of succession and resemblance. Reasoning and observation duly combined are the means of this knowledge. What is now understood when we speak of an explanation of facts, is simply the establishment of a connection between

single phenomena and some general facts, the number of which continually diminishes with the progress of science.[1]

The first formula of Positivism, its true starting point, has remained unchanged. The theory of the three states is borne out alike in individual and in general history; for the majority of thinking men have been theologians in their childhood, metaphysicians in their youth, and natural philosophers in their manhood. Philosophy, thus understood, is nothing more than a classification of observed facts, "so arranged as that the study of each category may be grounded on the principal laws of the preceding, and serve as the basis of the next ensuing. We must begin then with the study of the most general or simple phenomena, going on successively to the more particular or complex. . . . Thus we have before us five fundamental sciences in successive dependence—astronomy, physics, chemistry, physiology, and social physics. The first considers the most general, simple, abstract, and remote phenomena known to us, and those which affect all others without being affected by them. The last considers the most particular, complex, concrete phenomena, and those which are the most interesting to man. Between these two the degrees of speciality, of complexity, and individuality are in regular proportion to the place of the respective sciences in the scale exhibited."[2]

The science which treats of humanity and its relations is called social physics. It is the resultant of all the preceding sciences. Positivism, by excluding the study of this subject, leaves the soul and the conscience altogether out of its domain. M. Littré says: "Those who define philosophy as I do, to be *a conception of the world*, dispense with psychology. The Positive conception of the world is only to be arrived at by purely objective methods."[3]

[1] "The Positive Philosophy of Auguste Comte." Translated by H. Martineau. Second edition, vol. i. pp. 1, 2. [2] *Ibid.*, pp. 21–23.
[3] Littré. "Fragments de Philosophie Positive," p. 268.

Auguste Comte is no less explicit in this negation of psychology. "It is out of the question," he says, "to make an intellectual observation of intellectual processes; for the observed and observing organ being here the same, its action cannot be pure and natural. In order to observe, your intellect must pause from activity; yet it is this very activity that you want to observe. If you cannot effect the pause, you cannot observe; if you do effect it, there is nothing to observe. The results of such a method are in proportion to its absurdity. After two thousand years of psychological pursuit, no one proposition is established to the satisfaction of its followers."[1]

M. Littré adds: "Man, like the little globe he inhabits, is thus brought to take his true place in the universe. As soon as he ceases to pose as the centre of the world, he is lost like a point in boundless space. When the natural philosopher is once convinced that the essential nature of things,—the origin and destination of the universe, and the causes of phenomena,—are insoluble problems, positive science begins. Accepting only the results of experiment and observation, the mind gives over the vain search after absolute notions beyond the reach of either. While positive science, thus freed from impediments, steadily advances carrying conviction to man's intellect, that same intellect turns away from metaphysical speculation, ever agitating questions to which there is no reply. Everything is judged by facts and results."[2] Theology is naturally involved in the same downfall with psychology; it had indeed, we are told, already given place to metaphysics before this in its turn was swept away by the advance of positive science.

The essence of Positivism is contained in these assertions, for its scientific construction is really only a method of arranging facts on a vast encyclopædic plan, without drawing from them any conclusion. Nothing is more contrary to its funda-

[1] "The Positive Philosophy of Auguste Comte," vol. i., p. 10.

[2] Littré. "Préface d'un Disciple au Cours de Philosophie Positive," p. 25.

mental principle than to seek in the fact anything beyond itself. Its influence has been great, just on account of this simplicity in its formulas, deceptive as it really is. It has profited by the natural but too exclusive admiration which the magnificent advance of science has aroused in our generation. Its achievements are indeed mainly due to that experimental method, the lawfulness of which we ourselves are the readiest to acknowledge in its application to natural phenomena. The error of Positivism is, that it extends the operation of this method beyond its proper domain, and asserts for it a monopoly to which it has no claim. It has not been true to the engagement made by M. Littré, who promised that he would not become intoxicated with his own wine. Passionately devoted himself to experimental science, he is unwilling to recognise anything beyond it, even when the facts that present themselves for solution are enacted in the sphere of our own consciousness, and are, to say the least, quite as real and positive as those of the external world.

The first charge that we make against Positivism is, that it has not been true to its own principles, in suppressing arbitrarily an entire class of facts which demand to be verified, and which are true conditions of being. To eliminate or mutilate facts, is as unscientific as to accept them on insufficient grounds. Why should such a limitation be made, except on the ground that the phase of existence thus voluntarily excluded from view, cannot be brought within the accepted formula, and threatens to shatter the preconceived mould within which it has been determined to restrict all knowledge? Yet this psychological fact has a real existence; and the soul cannot be quenched or petrified at will. Not only does the mind claim to be itself studied, but it is ever questioning. Not content with learning the conditions of existence, it reaches after the principle, the cause of being. It is an indefatigable interrogator, on whom no theory can impose silence. This eternal *why* of the mind is therefore a fact. Let it be

observed that this is no passing and intermittent phase of the human mind ; it is an instinctive, invincible tendency, inherent in its very constitution, and manifesting itself under all circumstances. The lapse of centuries and the progress of science make no change in it. Its thirst after knowledge is as eager now as it was in the confused and dreamy days of man's infancy. We do not make it a reproach against Positivism that it does not explain this fixed, universal, essential instinct of the mind, since it does not pretend to explain anything; but we do complain that a plain psychological fact is ignored, and left out of a programme which professes to verify all facts. It is surely much, if we can prove as a permanent and incontrovertible reality, this craving of the mind of man to know something of the origin and purpose of all effects. We are thus brought very near to a recognition of the existence of the principle of causation. If it is admitted that this principle is universally present, we have no right to ignore it. If to search after causes is an instinct of the human mind under all conditions, then that search must be pursued. The fetters which positive science, or rather the Positivist system, would lay upon it, must needs be broken. Nothing can prevent its stretching out its wings into the forbidden region.

The general history of humanity, alike in the present and the past, is conclusive against Positivism, and directly contradicts the famous theory of the three states. It is certain, first of all, that, so far from excluding each other, as a matter of fact they everywhere co-exist in the human breast. Positivism must at least admit that it is not supported by chronology. However far back we go in the history of civilised humanity, we find, everywhere and always, religion, philosophy, and positive science existing together, and striving to disentangle themselves from their first confusion without ever separating entirely. If we look at our own times only, it is beyond question that positive science has not banished either religion or metaphysics. Religion is more active than it ever

was; it underlies all our controversies; and if the tendency of our day is to separate it more and more from politics, this does not prevent its being still the most powerful lever to move the mind of man, whether it be for it or against it. The very vehemence with which it is opposed proves that it is no mere shadow, no intangible phantom, against which men are fighting.

We are not speaking of religion now as a sentiment only, but as a science. The great theological movement inaugurated by Schleiermacher, and carried on by such thinkers as Nitsch and Rothe, must be ignored by those who affirm that theology is a thing of the past. It has numbered more adepts in our day than Positive philosophy, and it has displayed as much vigour and intellectual depth as those who declare it to be defunct. With regard to metaphyics, it is enough to mention the names of Kant, Schelling, and Hegel, and more recently of Schopenhauer and Hartmann, in order to show that speculative thought, so far from being in its decadence, has had in our day a time of rare exaltation and enthusiasm. When we look yet more closely, we see that Positivism itself, so far from repudiating metaphysics, casts its roots deep into it; for it was Hegelianism which, by placing the Absolute in the "Becoming," that is, in things nascent or contingent, prepared the minds of men to reject it altogether. Not only do religion, metaphysics, and positive science co-exist in the same period; but they are united in the same man. Jean-Jacques Ampère, for example, was at once a decided Christian, a profound metaphysician, and one of the most illustrious masters of positive science, which he enriched by important discoveries.

How can the theory of the three states be defended against this refutation of it by well-established facts? It may be said, no doubt, that in every age there are laggards, and that it is the leaders only who must be taken as representative men. But if Positivists are,—as this explanation would imply,—the leaders of the intellectual movement of the day, they must at

any rate be followed by the great body of the army; and this is certainly not the case. Rather, we find these leaders themselves carried away by those who follow them, since the Positivist school is more and more abandoning the famous theory of the Unknowable, in favour of a materialistic explanation of the universe. Thus unconsciously it is becoming metaphysical, and proving untrue to the fundamental principle of its philosophy.

These considerations lead us to look more closely into the theory of the three states, and to inquire if it is not based upon some misconception. In the first place, the Positivist school takes an unfair advantage by giving a definition of theology and metaphysics which applies only to their lowest manifestations. In Comte's view the theological state consists essentially in a vulgar fetishism, personifying and deifying all the forces of nature, while metaphysics simply substitutes entities, that is personified abstractions, for the fetishes. This is true, not of primitive, but of degénerate religion; for it is proved, more and more clearly, as we shall show presently, that religion is in its essence monotheistic, as it was in its primeval form. Again, only the Realistic school can be accused of this sort of idolatry of entities. Theology and metaphysics have both progressed, and this progress has not consisted simply in giving place to Positive science; it has been carried on in their own domain. They too have had their evolution. Theology has been confronted with the gravest problems of the human mind, and has dealt with them by purely scientific methods. Metaphysics has long ceased to satisfy itself with vague mythological ideals, and has taken its stand on the facts of psychology. Here it has been led to recognise the principle of causation, which is no Æon of a fantastic Gnosticism, but is at once a plain fact and a principle. Thus intellectually regarded, theology has never been divorced from metaphysics. Both have had to take up the same problems, and have often given the same explana

tions; they have thus dwelt together in the same great minds. Descartes, Malebranche, Leibnitz, Maine de Biran, Schelling in his later manner, were all at the same time theologians and metaphysicians. The question of authority cannot be said to mark the distinction between theology and metaphysics, because neither the one nor the other has settled it in any uniform manner. We see then that there is too much of metaphysics in theology and too much of theology in metaphysics, for us to regard them as distinct steps in the ladder of intellectual development.

If we pass on to positive science, we shall be led again to the conclusion that it is not incompatible with theology and metaphysics. It is indeed a fatal mistake, to make science dependent upon the other two; but without pursuing further here a line of thought which we shall take up presently, it may be affirmed that positive science itself points, so to speak, to something higher than itself; that it implies of necessity a higher order of things which it does not explain, and which calls into play intuitive faculties of the human mind, whose unquestionable existence justifies the researches of theology and metaphysics. Positive science, just because it is true science, rises from the particular to the general, and after proving the connection between single phenomena evolves from it laws which bear upon the future. Starting from the relation of antecedent and resultant, it affirms that the same conditions of existence will always produce the same effects in the future. This is the very postulate of positive science. But this transition from the particular to the general, from the present to the future fact, cannot be determined by the mere observation of the object. Such observation does not include either prevision or generalisation; it only brings us into contact with a succession of phenomena. To make one such phenomenon the condition of the other; to conclude that a repetition of the same antecedents will produce the same results; to make this a law of nature, something more is

required than observation. There must be a predisposition of the mind, an *à priori* element. All is not comprised then in the object perceived; the perceiving subject is active also. We are thus raised by positive science itself above mere sensation. We are brought to the threshold of a higher region. Why then should positive science preclude metaphysics from entering that domain? It is never intended to be a substitute for metaphysics. It is its duty to guard its own sphere from anything that would falsify observation, but it can go no farther. Hence positive science may have the fullest scope, while side by side with it metaphysics and theology carry on, as they have ever done in fact, a work no less important and grand.

E pur si muove.—This is a truth that holds not merely of the earth sweeping onwards in its orbit, and sweeping with it the theologian who denies its motion, but also in the sphere of thought, that thought which ceaselessly pursues the causes of things and hurries with it in its search even those who fain would trammel it. In this connection we have certain utterances as important as they are significant from the founder of the Positive school. "As to the living organism," he says, "the prime character, nay, almost the whole matter, is expressed in this: Unity and coherence in space, progressive change in time. The efficient cause of this unity and progress is life itself. In the science of organic beings, everything depends on the mode of grouping or coherence, and this is the resultant and expression of a certain unity to maintain which everything concurs. Synthesis in biology is to supplant analysis. Each order of existence is to the order above it as a plastic matter, to which the higher order gives form and shape. The higher gives the key for the explanation of the lower. It is in humanity that we must look for the explanation of nature generally. Animal life, taken as a totality, would be unintelligible apart from the higher factors and attributes which form the subject-matter of sociology. The highest type of all con

stitutes in itself the complete determining principle of the universe biological."

M. Ravaisson very justly brings out the inconsistency of such declarations with the essential principles of Positivism. He says: "Comte likewise repudiates any metaphysical explanation, any cause beyond the mutual action and reaction of organism and physical environment. But if the phenomenon alone is real, how are we to find in it any causation, any explanation of other phenomena? The explanation of the lower by the higher implies a final cause."[1]

Thus has positive science itself defined the sphere of the two great disciplinary methods of the human mind, which Positivism would proscribe. The co-existence of theology and metaphysics with positive science, which in our view is vindicated alike by theory and practice, by no means implies that they should be confounded together. They co-exist just because their objects are not identical, but correspond to different and mutually complementary requirements of our nature.

Professor Flint has justly observed: "There are three ways of looking at things—a religious, a metaphysical, and a scientific. But three aspects are not three successive states. From the fact that it is natural for the mind to look at things in all these three ways, it in no wise follows that it is necessary, or even natural, to look at them one after another. Nay, just because it is so natural to look at things in all these three ways, it is not natural to suppose that the one mode will be exhausted, gone through, before the other is entered on, but that they will be simultaneous in origin and parallel in development."[2]

In order to form a clear idea of these three ways of looking at things, it will be necessary to define more distinctly the

[1] Ravaisson. "Rapport sur la Philosophie Française," 1867, p. 88.

[2] "The Philosophy of History in Europe." By Robert Flint. Vol. i. p. 269.

difference between what the Positivist school calls the first two states of the human mind, which it defines as the theological and the metaphysical. We are at a loss to show any well-marked difference between them indicated by the distinction. We have already alluded to the point of resemblance between theology and metaphysics. It seems to us better, therefore, to designate the first state or aspect of things by the name religion. Theology is doubtless closely allied to religion, but it differs from it in this respect, that religion is not primarily an affair of the intellect—a speculation—but is essentially practical in its character—an impulse of the soul, or rather of the whole being. We confine ourselves for the moment to one general characteristic which we shall vindicate when studying presently the origin of religion. Awed, often overwhelmed, by the mysterious intuition of the great unknown which holds him at once trembling and spell-bound, man has an instinctive desire to apprehend its meaning with his intellect, his heart, and his will. It may not be said that he becomes religious through terror of this great unknown. For, if this were so, the desire after a religious life would cease as soon as the terror was dispelled. But it is not so. The man in whom fear has been cast out, so far from trying to forget God, is ever pressing nearer to Him, longing to know Him better, or rather to be made one with Him. Religion, to be truly understood, should not be regarded in its lowest manifestations, in that gross fetishism in which Positivism wrongly supposes it to originate. Positivism has no right to apply to it another criterion than that which it applies to science. It does not measure science by the confused and dim utterances of its early period, but rather by its highest achievements in modern times. Let the same rule be in simple justice applied to religion. It has produced types which have grandly embodied its true ideal—a living union between man and God. Aspiration after the Divine is its great characteristic. It is this which wings its thought, fires its heart, prompts its will—thus bending its three

essential faculties in one and the same direction. We have not now to inquire whether this religious life is or is not based upon its aspirations. It is enough for us to recognise it as an unquestionable reality, and to determine its character as evidenced by the history of the human race. This suffices to establish that religion is essentially distinguished from pure metaphysics, whether theological or philosophical. There are, undoubtedly, real affinities between the two, for the tending of the moral nature Godward quickens the desire to know Him better in Himself as well as in His manifestations; thus religion has ever given the most powerful impetus to metaphysics. But whenever, under the impulse thus given, the mind abandons itself to mere speculation, religion becomes only secondary. The theologian needs none the less to be under the influence of religion, for man is only in equilibrium when all his nature is acting harmoniously; and even the speculative faculty works least advantageously in a vacuum from which all moral facts are excluded; nevertheless, the fact remains, that in metaphysical research the keynote, so to speak, is purely intellectual. There is not then absolute separation between religion and metaphysics, but there is sufficient distinction to justify us in saying that we have here, not two states of the human mind, incompatible and therefore necessarily successive, but two aspects of things which may perfectly well co-exist and even supplement each other without any sort of contradiction. Religion, like metaphysics, enters the region of causes; but the one soars aloft on an impulse of the soul, the other climbs by speculation. Yet both may blend in the same mind, (and a man may be at once the boldest of thinkers and the most fervent of Christians.)

Positive science is more sharply distinguished from religion and metaphysics. The task assigned to it by Positivism is peculiarly its own. It is its mission to inquire into the conditions of all existence, to establish the connexion of facts, and their invariable relations of succession and resemblance;

all of which belongs to the field of observation and experiment. How can religion and metaphysics come into collision with science thus understood, if only each keeps within its proper domain, being careful not to confound the *how* with the *why*, the question of the conditions of existence with that of its causes? This confusion arises in two ways. Either religion and metaphysics mix up the *how* and the *why*, introducing into processes of observation and experiment, arbitrary and capricious pseudo-causes; as, for instance, when mythology represents the thunder to be the voice of the Divine wrath, leaving it to science to ascertain the physical conditions of the phenomenon. It is only in its lower form that religion is guilty of such confusion as this; it does not depend necessarily upon the religious point of view. Or, on the other hand, positive science, not content with ascertaining the conditions of life, confounds them with the first causes, and introduces the *why* into the *how*. In both cases there is incompatibility between religion or metaphysics and positive science, for the simple reason that each has invaded the domain of the other, and has attempted to occupy the whole field of human activity. Thenceforth their claims become incompatible, their co-existence impossible, and the theory of the three states is vindicated. But the contradiction ceases so soon as each returns within its legitimate boundary, and positive science restricts itself to the contemplation of the conditions of existence and the correlation of natural phenomena. In this sphere the fullest liberty may be accorded to it. No one will attempt to control it by text or dogma, when once it is understood that religion has no right over its domain, that there is no higher authority to be invoked against it; that it is sovereign in its own sphere; that the experimenter in his laboratory, the naturalist entering the vast field of nature, is bound to believe nothing but his own observation; and that the interposition of any power whatsoever between him and the facts of nature is a usurpation.

From this point of view it is clear that writers who, like Draper, pretend to record the defeats of religion in the triumphs of positive science, are boasting a cheap victory.[1] That which has been happily vanquished is the encyclopædic religion of the Middle Ages, which made the sun move at the word of the prophet on the strength of a scripture text, and was thus forced to condemn Galileo—the religion which could not admit that the earth, instead of being the centre of the world, was but a point in infinite space. Such a religion, whether upheld by the Catholic hierarchy or by a Protestant orthodoxy enslaved to the letter of the Bible, is usurping authority to which it has no claim. True religion has to do simply with the relation of the soul to God; it only accepts as matter of revelation that which man has no power to discover for himself. Thus it leaves full scope for free inquiry, and it will never tremble before the advance of positive science, as though each stroke of the scalpel laying bare the secrets of nature, dealt it a mortal wound. We hold then the supremacy absolute and unquestionable of positive science in its own domain, while at the same time we hold that religion and metaphysics have lost none of the independence which belongs to them in their proper sphere; and thus all causes of conflict are averted.[2] The famous third state, to which both the previous states are to give place, is but a third aspect of things, compatible on equal terms with the religious and the metaphysical state.

Yet further, these three great functions of the human mind have not only the right to co-exist, they also all contribute, each by its proper methods and in its own sphere of distinct action, to the sum of human knowledge. We have shown that religion and metaphysics cannot dispense with each other,

[1] "Conflict between Religion and Science." Draper.

[2] See M. Charles Secrétan's admirable article on the three states ("Revue Philosophique," March, 1881), and M. Vacherot's on the same subject ("Revue des Deux Mondes," August, 1880).

and are only really fruitful in union. Positive science, over which they have no control, so far from awaking their fears and scruples, is intended to reinforce them. The science of causes is closely linked to that of effects, and is obliged, under penalty of losing itself in mere abstractions, to keep itself well informed of the results obtained by positive science. To explain without knowing, is not to explain at all. If metaphysics keeps a parallel line with positive science so that the two never meet, it becomes a mere abstraction—the science of quintessences, and the ridicule of true scientists. On the other hand it gains vastly by that verification and classification of natural phenomena, from which the great laws of nature are logically evolved. When through the researches of positive science, the perfection of the Cosmos is brought, as it were, before our very eyes, the soul is uplifted to a higher perfectness, the reflection of which it has caught in the earthly things. The links of secondary causes which the observation of the scientist discovers, form surely but one end of that chain of first and final causes on which the metaphysician speculates, and in which the Christian believes and worships.

We have seen that positive science is carried above itself by the idea of law reduced to its simplest expression and regarded as suggesting the invariable sequence of cause and effect.

The part taken by hypothesis in discovery leads to the same conclusion, as has been ably shown by M. Claude Bernard in his theory of experimental science. Hypothesis is that illumination of thought which anticipates a law of nature. It flashes upon the mind as the result of some preliminary and inconclusive experiment. Hypothesis would be impossible if there were not between the phenomena of nature and the mind of man a pre-established harmony. M. Claude Bernard does not hesitate to call this a preconceived idea, and this implies an *à priori* element. In his "Introduction à la Médecine Expérimentale" we read: "It may be said that man has in his mind the intuition and presentiment of the laws of nature with-

out knowing their form."[1] This intuition would not indeed suffice to establish the fact apart from severe scientific inquiry; but the mind would not be capable of such an anticipation of facts if they were not something more than mere experimental phenomena, and if there were not in him something antecedent and superior to mere sensation. Hypothesis is only a preliminary application of the principle of causation. From particular facts already verified, the mind argues general laws of life, a higher order which explains the lower, as says Comte. Thus positive science itself attests that it is not sufficient, that there are other aspects of things and that these are not unimportant. We conclude then, in opposition to the theory of the three states, that there is ample scope for division of labour and a fundamental harmony between religion, metaphysics, and positive science.[2]

The only concession we are prepared to make to Comte's theory is, that these three great aspects of truth have been gradually emerging from the confusion in which they were at first involved and by which all suffered. It is very clear that, in the infancy of intellectual development, religion, metaphysics, and positive science,—if indeed there was anything worthy of the name of science,—were indistinguishably blended. Mythology pretended to give a complete explanation of the universe by "supposing all natural phenomena to be produced by the immediate action of supernatural beings." The sighing of the wind, the roar of ocean, the sunshine scattering night, were all

[1] Claude Bernard. "Introduction à la Médecine Expérimentale," pp. 266–269. M. Ernest Naville, in his book entitled "La Logique de l'Hypothèse" (Germer Baillière, 1880), treats fully this subject, on which we can only touch. Not only is the importance and philosophical significance of hypothesis in aiding scientific discovery fully brought out, but the indispensable conditions of its legitimate use,—perseverance, courage, loyalty to truth,—are clearly indicated. See also M. Caro's book "Le Matérialisme et la Science" (Hachette, 1867) for a masterly treatment of Claude Bernard's assertions about hypothesis.

[2] See on this subject M. Liard's book, "La Science et la Métaphysique," vol. ii., chap. I.

so many divine acts, which it was therefore idle to try to explain by natural laws and secondary causes. This was the age—

"Où le ciel sur la terre
Marchait et respirait dans un peuple de dieux."

Hesiod deifies the great cosmic laws as he conceived them; and the very palpable darkness of their origin suggests to him a goddess impenetrably veiled, whom he calls *Eternal Night*. Ancient philosophy sought to disentangle this confusion of primary and secondary causes. In the attempt it sometimes went so far as the entire suppression of primary causes, as in the Ionic school of philosophy, and particularly in the Atomism of Democritus; and thus the way was first opened for positive science to assert itself. Hence Lange, in his history of these schools, affirms that materialism was a condition of progress, in spite of its exclusiveness which led it ultimately into the grossest errors. He acknowledges nevertheless, that the great impulse to scientific research came from those very metaphysicians of whom he complains that they led positive science away from its lawful domain. Speaking of what he calls "this exaltation on the wings of imaginative speculation," he says: "We shall attach to it a high importance when we see how the free play of spirit which is involved in the search after the One and the Eternal in the change of earthly things, reacts with a vitalising and freshening influence upon whole generations, and often indirectly affords a new impulse even to scientific research. . . . The religious and moral principle from which Plato and Socrates started, guided the great speculative movement to a determined goal, and made it capable of affording a deep content and a noble character of completeness to the moral efforts and struggles of thousands of years. . . . And even to-day the Ideal theory, which we are obliged to banish from the field of science, may by its ethical and æsthetic content, become a source of plentiful blessings."[1]

[1] "History of Materialism," F. A. Lange, vol. i., pp. 79, 80.

In the Middle Ages the early confusion reappeared in many forms in christian scholasticism. Bacon initiated a reaction similar to that of the Ionians and the Naturalists of the school of Epicurus. This reaction was exaggerated, like all movements of the kind, but it paved the way for the distinction between religion, metaphysics, and positive science. The division of the labour of inquiry enabled scholars to work each in his separate department, without any attempt to monopolise the whole field.

This distinction and division of labour is an essential element of progress. The Positivism which ignores it and is unwilling to recognise any domain but its own (while forced to admit its incompleteness), is a retrogressive movement. It tends to clip the wings of inquiry; but this mutilation is so contrary to nature, that the school which pledged itself to accept nothing but positive facts ends by founding a religion. There is indeed, as we know, a schism on this point among the disciples of Comte. But it is none the less remarkable that the master himself should have developed the strange mysticism which characterises his later writings, and should have instituted a worship which has never lacked devotees. His paper "Sur l'Ensemble du Positivisme," published in 1848, does not indicate any failure of power in the author of the Positive philosophy.[1] His great mind seems perfectly calm and self-possessed. He had no doubt received a shock, or, to speak more correctly, an impulse, from the great events which had shown the frailty of monarchical institutions and opened a broad highway for triumphant democracy. It is this triumph which is absorbing his thoughts. He sees that this democracy will want a guiding principle to take the place of the dethroned authorities and powers. He recognises that this principle must be something more than a mere scientific method, that it will only be

[1] "Discours sur l'Ensemble du Positivisme, ou Exposition Sommaire de la Doctrine Philosophique propre à la grande République Occidentale." Paris, 1848.

effectual if it appeals to the heart as well as the intellect, and so enlists the emotional nature. How is such moral suasion to be educed from the mere contemplation and classification of natural phenomena? It is not enough to strike the barren rock to make the living waters flow. Thus Comte is constrained to leave behind his own premisses. In spite of his efforts not to go beyond his system, he draws largely on that early state of the human mind which he had contemptuously relegated to the ignorant infancy of the race. He imagined indeed that he had completely escaped so humiliating an admission by making humanity, and not the transcendental deities of the past, the object of worship. Humanity is everywhere represented as the only truly Great Being, of which we are the necessary members. To this great Humanity all the aspects of our individual and collective life are henceforth to have regard; our intellect is to contemplate it; our affections to cling around it; our actions to serve it. This is a stage far removed indeed from the positive, and closely akin to that theological state, the great feature of which was the arbitrary personification of causes. We had been told that the fetish-worshipper, like the worshipper of Jehovah, went beyond positive facts, infusing into them a soul, a principle, a mysterious power, which was their first and final cause. Religion, we were told, tends always to bring down the Divine into the earthly; it is not content with a transcendent, it seeks an indwelling deity; its great fallacy consists in this, that it couples with the positive facts which belong to experience, a mysterious force eluding observation.

In what, we ask, does the Great Being of Comte himself differ from these entities, whether religious or metaphysical, which he has sought to banish from the field of science? Our own observation enables us to verify the existence of individuals and aggregates of individuals who have entered into certain relations or social organisations; but where has positive science found a Great Being called Humanity—a Being vast and eternal,

to use Comte's own description, composed even more of the dead than of the living, and who lives again in each one of us?

So large a generalisation, attaining such a degree of reality that it becomes an object of worship, cannot be simply the sum total resulting from the addition of particular phenomena. It is more empirical even than those graceful divinities of Greek polytheism, which were but the simple idealisation of known realities. Let it not be forgotten that Comte asserts that we are necessary members of this Great Being. It must then have preceded and in some way produced us. It stands to us in the relation of a first cause, while it is at the same time an end, since we are bidden not only to contemplate but to love and even to serve it. It is not enough to say that it lives again in every man, for thus it appears only in a partial and disintegrated form; and it is the great whole, the complete integration, which is to be the object of our adoration. We can attain to it only by the power of thought. We must go beyond the relative and the particular and take our flight to the loftiest generalisation: and this somehow bears a strange resemblance to the Absolute. The cause, the end, the Absolute,—here surely we have all the characters of a religion. I am aware that Comte asserts that in this adoration of the great whole, there is nothing more than the application of the element of sociability. That element, he tells us, proceeds logically from the subordination of the subject to the object; the mind, finding its own laws in nature, will simply submit to that immutable necessity which forbids us to isolate ourselves, and compels us to submit to the conditions of universal existence around us. But sociability is something quite apart from this subordination, for we have no such sentiment towards the outer world on which we are in so many ways dependent. The sociability which our kind inspires in us, arises out of our moral affinity with them. It does not proceed from the simple law of subordination, but from the sympathy and affection they inspire in us, in an altogether special way, such as we do not experience

towards any other beings. This Comte himself fully recognises, hence the importance which he attaches to the emotional side of our nature, the heart, the source of all noble impulses and fruitful affections. Hence the important part which he assigns, in his social reorganisation, to woman, whom he almost deifies, and after her to the common people, as more susceptible than other classes to the intuitions of affection. All is to run smoothly in the new society when, this pre-eminence of woman and of the common people being duly recognised, it has once inaugurated a purely industrial and productive *régime*, under the leadership of the ten thousand *savans* whom it is to love and cherish as its mandarins and spiritual chiefs.

We do not dwell upon these Utopian visions, because no one in our day concerns himself about the worship of the Great Being, with its brilliant fêtes and motley calendar crowned by the apotheosis of woman. We can only smile at this counterfeit of Middle-Age Catholicism, which, by the way, Comte regards as the least senseless of the follies of the past. We only advert to his conception of the Great Being and the mystical fervour it enkindled in him, as proof furnished by himself that his system failed to satisfy him. We are not among those who jeer at these strange inconsistencies. We look at them rather as the Nemesis of those indestructible elements of human nature which Comte sought arbitrarily to eliminate, and which thus assert themselves as the immortal part of man.

We are bound to say that M. Littré, who so justly commands our respect by his elevation of character and nobility of life, has unhesitatingly repudiated the mysticism of his master, Comte. He has even gone so far in his reaction against this tendency, so repugnant to his logical mind, as to deny the very existence of that region of the Unknowable, which Positivism is obliged by its very fundamental principle at once to maintain and to ignore. Since, in this system, the attempt to explain anything is strictly interdicted, the existence of a First Cause can neither be

affirmed nor denied by it. Negation would be explanation; materialistic atomism is metaphysics. In order to appreciate this inconsistency of the illustrious writer, we have only to refer to his argument with Stuart Mill on this very question of the Unknowable. "If the universe had a beginning," says Mr. Mill, "its beginning, by the very conditions of the case, was supernatural; the laws of nature cannot account for their own origin. The Positivist philosopher is free to form his opinion on the subject, according to the weight he attaches to the analogies which are called *marks of design*, and to the general traditions of the human race."[1] M. Littré energetically combats the idea that Positivism should make any concession to the idea of finality conveyed in the expression *marks of design*, used by Stuart Mill. "Positivist philosophy," he says, "does not leave us free to think what we please about first causes. It allows us absolutely no liberty in this respect. A man cannot serve two masters at once, the relative and the absolute. To conceive of knowledge in a region which philosophical principles assign to the unknown, is not to harmonise differences, but to bring together incompatibilities."[2] To interdict Positive philosophy from even admitting the possibility of a First Cause in the region of the unknown, as M. Littré does, is to abandon the position of complete neutrality which he had claimed. If Positive philosophy is really bounded by the phenomenal in nature, then it can have no interdict to lay upon hypotheses affecting anything beyond those limits. Suppositions and presumptions are free, provided they are not treated as certainties, which the fundamental principle of the school forbids. To object to the very admission of the possibility of an intelligent First Cause, amounts to denying its existence; and if the denial can be justified, the question has passed out of the region of the unknown. To speak of ignorance in such a case, is an abuse of language,

[1] Stuart Mill. "Auguste Comte and Positivism," pp. 14, 15.
[2] Littré. "Fragments de Philosophie Positive," p. 284.

for he who is entirely ignorant cannot have a presumption for or against any one of the possible suppositions. So far M. Littré is right, in opposition to Mr. Mill and Mr. Spencer. Neutrality on such a subject demands an equilibrium which is impossible.

Thus Positivism has sometimes risen above itself, as we have seen in the case of Comte—the founder of the humanitarian religion—and sometimes has drifted into pure materialism. It is to this side that M. Littré's logic inclines. To say, as he says, that the view of the material shuts out the view of the spiritual, amounts to denying the spiritual. And yet he does not succeed altogether, for we can trace in his writings more than one of those happy inconsistencies which attest the imperishable aspiration of the soul. In the "Paroles d'un Disciple," that beautiful introduction to the course of Positive philosophy, he speaks in almost devotional tones of the infinity which lies beyond us: "That which goes beyond positive knowledge, whether in the material world—the boundless realms of space, or in the intellectual—the endless concatenation of causes—is inaccessible to the mind of man. But inaccessible does not mean null and void. Infinity, both material and intellectual, is closely linked to our knowledge, and becomes by this alliance a positive idea and of the same order; I mean, that, as we approach it and touch it, this infinity appears to us under its two-fold aspect—the real and the unfathomable. It is an ocean which comes breaking on our shore, for which we have neither bark nor sail, but the clear vision of which is as salutary as it is terrible to us. The feeling of an infinite expanse in which all things float, has been gradually taking possession of men's minds, since astronomy gave a real form to the vasty deep, and changed the sky into a boundless space peopled with countless worlds. It is this feeling which has ever since given the tone to the human mind, inspiring the imagination, and finding utterance in the grandest raptures of modern poetry. It is a new spiritual phase for man to see himself surrounded by

the vastness of space, of time, of multiform life, without any other master, any other safeguard, any other strength than the mere laws which govern the universe. Nothing is so elevating to the soul as this contemplation. All that has been done, and that is being done, of great and good in our modern era, has its root in the growing love of humanity, and in the conception that man forms of his place in the universe."[1]

This is a stage far removed indeed from that simple observation of phenomena which stirs none of these sublime emotions; for the sublime is born of the intuition of the infinite, and not of a mere widening of the horizon of visible and sensible things. I know that M. Littré asserts that all that is grandest in the emotion thus excited, is derived from the fact that man is in the presence of an infinite devoid of God—the boundless realm of nature; but who can fail to feel that there is religion in the deep sentiment which expresses itself in such strong poetry, that it is but an echo of Pascal's words: "*L'immensité des espaces infinis m'étonne et me confond.*" Strange, that man is so essentially a religious being that he makes a sort of religion out of irreligion itself, and imparts to it an element of the infinite derived from the indestructible instinct of his own nature. To use M. Littré's figure, the ocean of immensity would break in vain upon the shore of humanity, if man were but as a grain of sand; it would have no power to touch him if the voice of the infinite had not already spoken in the depth of his soul. Man is like the tiny shell which seems to hold imprisoned within it the roar of the mighty ocean. We only need to bend our ear to listen, and we catch distinctly the echo of infinity.

It will be no departure from the severe conditions of a grave discussion, to show by an indisputable example, that Positivism finds it impossible to restrict itself within its own prescribed limits. There has lived in our day a young scholar, too early snatched away from a promising career of science,

[1] "Auguste Comte et la Philosophie Positive." M. Littré.

who had accepted the principle of the Positivist school in all its severity. He believed that positive science was the one aspect of the universe. A sincere and earnest student, devoted to the search after truth, he soon discovered not only that this science did not respond to all the legitimate aspirations of his being, but also that it did not suffice for itself. M. Lévêque, in his beautiful introduction to M. Papillon's posthumous work, "L'Histoire de la Philosophie Moderne dans son Rapport avec le Développement des Sciences de la Nature," gives the intellectual and spiritual history of this young scholar. He had felt the full fascination of the splendid advance of contemporary science, and he started with the most absolute exclusivism, and the elimination of everything which was not positive science. His road to Damascus was this very pursuit of free scientific inquiry. He felt as he went on, that man has other faculties than pure reason, which demand to be fed. He came to recognise that even knowledge itself catches as it ascends a glory from heights above those of scientific observation. "Let the empirics and the utilitarians say what they will," he writes shortly before his death, "there are certainties outside the experimental method, and paths of progress that outlie its most brilliant and beneficent applications. The human mind can employ its energies, work in accord with reason, and discover real truth in a sphere as much higher than that of laboratories and workshops, as this is higher than the region of the commonest acts of life. In short, there is a temple of light, the doors of which are not opened to the soul either by mathematical or natural science, and into which nevertheless, the soul which has not lost the consciousness of its ancient prerogatives, may safely and rightly look."[1]

M. Papillon is an illustration of the incompetence of Positivism to keep the mind enthralled within the narrow

[1] "Histoire de la Philosophie Moderne dans son Rapport avec les Sciences de la Nature." Ouvrage posthumé de Ferdinand Papillon. Introduction, p. 20 (Paris: Hachette, 1876).

circle of mere observation of facts. How can we wonder at this, when we have seen that the founders of the system themselves, the very men who have laboured to construct this iron cage for the intellect of their age, have been the very first to break through its bars?

To conclude, we hold that Positivism is not justified either by history or by the facts of present experience. Starting with a disavowal of the principle of causation, which is the very foundation of all reasoning, and which ought at least to be recognised in the category of established facts, it has seen its theory of the three states belied in the past, by the permanent coexistence of theology, metaphysics, and science; and in the present (which ought to be the exclusive age of Positivism), by the new and eager impulse given to philosophic and religious thought. It has mistaken for three successive and incompatible states of the human mind, three aspects of things, which may be usefully distinguished but not separated from each other, since they are mutually complementary. Neither religion nor metaphysics can dispense with positive science, while on the other hand positive science is not self-sufficing, since, in formulating the simplest laws which extend beyond single phenomena, something more is implied than the results of mere sensation and positive observation. Hypothesis which suggests experiment, is a light coming from within, not from without. The progress of knowledge consists in disentangling it from its original confusion, and dividing the work to be done between religion, metaphysics, and positive science, while preserving their independence and necessary relations. Positivism has not been able rigidly to adhere to its principles; it has encountered a twofold difficulty. Sometimes it has been raised above itself under the imperious influence of the higher needs inherent in humanity, as we have seen in the case of Auguste Comte himself, who ended by founding a humanitarian religion altogether out of harmony with his own premisses; sometimes it has inclined to pure materialism, and has denied

altogether the existence of the Unknowable, which, in fidelity to its own principles, it is bound to admit.

Other systems, based on the same doctrine, have diverged also in both these directions, so that positive science presents a line deflected now to the right, now to the left. This *reductio ad absurdum* is simply the refutation by history of the changing theories by which the mind of man has sought to solve the problem of the universe. So strong is the instinct of the true within him, that no error can stand before it; every doctrine, as it develops itself, discloses whatever is false and incomplete in it. It is sure to arrive sooner or later at some crucial result which brings to light its defectiveness. The school which arises in its stead, makes it its special object to bring into prominence this latent inconsistency of its predecessor, and to push it to its furthest issues, till, in its zealous refutation, it also falls into error, and is in its turn refuted and superseded. Thus, every error becomes the starting-point for a new victory. We may then have full confidence in the human mind, and in its spontaneous logic; it is ever eager to overturn its own idols and bring to light their feet of clay. The history of thought has its Nemesis, like the history of the passions, and this Nemesis is reason itself, obeying its own laws.[1]

[1] See two articles by M. Caro, "La Philosophie Positive, ses Transformations, son Avenir," "Revue des Deux Mondes," April 15th, May 1st, 1882.

CHAPTER II.

THE PROBLEM OF KNOWLEDGE AND THE NEW PSYCHOLOGY IN ENGLAND, FRANCE, AND GERMANY.

Positivism professes to limit its researches to the verification of facts and their immediate order of succession. When science has accepted and classified them, it has done its work. First and final causes lie so completely beyond its range that it is not entitled even to deny them, since the negation of these higher causes would be virtually an affirmation that the causes of being are inherent in the phenomenal world itself, and would thus be a reply to the question which science is forbidden to ask. We have seen Positivism carrying its principles so far as to eliminate psychology from the domain of science, on the ground that the subject ought always to be subordinated to the object, the mind to the Cosmos, in order that we may keep within the pale of certainties. We have come to the conclusion, therefore, that Positivism is shown, alike by history and by reason, to be untenable and doomed to fall, as divided against itself.

Another school arising out of it has endeavoured to rectify or to supplement it, by explaining the origin of what we call the *à priori*—the indestructible basis of the intellect in man, the laws, categories, and principles of thought, commencing with the most universal and powerful of all—the principle of causation. This school, in carrying out its programme, has been constrained to deal with psychology, since it proposes to prove by a subtle analysis, that the mind of man does not possess inherently the element which seems intuitive, but

derives it purely from sensation. It is not content therefore with prohibiting the inquiry into causes; it pretends to prove that there are no causes, that the principle of causation is only a generalisation of sensation derived from its frequency and regularity. We shall follow the developments of this school first in England, in its two cognate branches, I mean in the theory of association, which Stuart Mill has developed with such a wealth of observation, and in that of transformation, which Herbert Spencer has carried to its fullest issues. Germany exhibits an analogous tendency in the new philosophy which asserts (strange to say, not in irony) that it has founded a psychology without assuming the soul. Lastly, M. Taine advances the same theory in his own brilliant and piquant style. To him psychology seems nothing more than a show of Chinese shadows; though we fail to discover any trace of a substantial screen on which to project them.

I. English Psychology.—The Theory of Knowledge according to Stuart Mill and Herbert Spencer.

1. Stuart Mill.

It is in his work on Sir William Hamilton's philosophy that Stuart Mill first formulates his theory of the association of ideas, which he holds to be the key to the psychological problem. By means of it he professes to make the mind of man a complete void, tracing back to combinations of sensation all that appears to us fundamental or axiomatic.

Before presenting his views on this capital point, we wish to call attention to a flagrant contradiction in his system which we find also in that of Herbert Spencer. Stuart Mill has affirmed, even more emphatically than the Positivist school, the existence of that great region of the Unknowable which eludes research. We have seen that M. Littré was ready to accuse him of mysticism for having expressly reserved to

religion, or at least to the mysterious instinct which it reveals, that *terra incognita* in which we are free to suppose anything, —even the existence of God,—provided we recognise that it has nothing whatever to do with science: "The positive mode of thought is not necessarily a denial of the supernatural, it merely throws back that question to the origin of all things. . . . Positive philosophy maintains that within the existing order of the universe, or rather of the part known to us, the direct determining cause of every phenomenon is not supernatural, but natural. It is compatible with this to believe that the universe was created, and even that it is continuously governed, by an Intelligence, provided we admit that the intelligent Governor adheres to fixed laws."[1] Here then we have the possibility of the Divine and the supernatural stated in the most categorical manner; and yet we are told that all our ideas come from sensations in various stages of combination and association! How are we to harmonise the possibility of the Divine with a theory of knowledge which has no other source than the senses? These can never give even the vaguest intuition of the Divine—of what Stuart Mill justly calls the supernatural. Matter can only give the material element, the transitory and inferior. We have before us these two alternatives: either the Divine and supernatural should be denied, even as bare possibilities; or the theory that all knowledge is derived from sensation is inadequate and fails to set aside the *à priori* in man. No dialectic artifice can avail to cover this contradiction, which is even more palpable in the later works of this great thinker.

In Herbert Spencer we find the same inconsistency, though he assigns a larger part to the purely mechanical explanation of things, and comprehends the theory of the association of ideas in that of evolution. "Life," he says, "is definable as the continuous adjustment of internal relations to external relations. And when we so define it, we discover that the physical and

[1] "Auguste Comte and Positivism," Stuart Mill, pp. 14, 15.

the psychical life are equally comprehended by the definition. . . . If then life in all its manifestations, inclusive of intelligence, consists in the continuous adjustment of internal relations to external relations, the necessarily relative character of our knowledge becomes obvious."[1]

The unknowable is confounded with the absolute. "We are conscious of the relative as existence under conditions and limits; it is impossible that these conditions and limits can be thought of apart from something to which they give the form. Consequently there must be a residuary consciousness of something which filled up their outlines; and this indefinite something constitutes our consciousness of the non-relative or absolute. Impossible though it is to give to this consciousness any qualitative or quantitative expression whatever, it is not the less certain that it remains with us as a positive and indestructible element of thought. . . . The momentum of thought inevitably carries us beyond conditioned existence to unconditioned existence; and this ever persists in us as the body of a thought to which we can give no shape."[2]

We know that Herbert Spencer reduces the unknowable and the absolute to a thin abstraction which "transcends not only human knowledge but human conception," while he leaves us free to admit a mode of existence as much above the will and the reason as these are above mere mechanical movement. But this higher mode of existence, beyond the relative and the experimental, is after all but a vain show, if the theory of mechanical evolution, as expounded by Herbert Spencer, is true; for we find that it explains everything within and around man, leaving no place anywhere for anything but mechanical force—no nook or cranny in the mind for any other element; so that neither in the object nor the subject is there room for the unknowable or the

[1] "First Principles," Herbert Spencer, pp. 84, 85.
[2] *Ibid.*, pp. 91–93.

absolute; everything is known and explained, everything is material and relative. In fact, the subject has no real existence; he is only the object modified according to the invariable law of the persistence of force. There are but two alternatives then: either to renounce the unknowable, the absolute, or to shatter the narrow mould of universal mechanism. It follows that evolution and the association of ideas alike fail to explain the mind of man We are sure then, before examining them in detail, that these two theories are inadequate, since they conflict with one of the most positive facts verified by themselves, namely the presence in the mind of that element of the unknowable, the absolute, which the very conception of the relative carries with it by an association of ideas amounting in this instance to a law.

If we now look at these two theories in themselves, setting aside the notion of the unknowable and the absolute, which they have nevertheless failed to shake off, we shall find them equally inadequate to explain mere intellectual phenomena.

Stuart Mill had been anticipated in his theory of the association of ideas by a philosopher of the eighteenth century, whom he has only supplemented—David Hume. Hume also endeavoured, by analysing the complex and combination of sensations, to arrive at the "original furniture of the mind." He devoted himself especially to the principle of causation, "that bulwark of the intuitive school," as Stuart Mill has well called it. According to Hume, we have come to seek the causes of all phenomena, through an inveterate habit of mind resulting from the frequent succession of our impressions.[1] It is from the simple fact of succession that we have risen gradually to the idea of causation. By repeatedly verifying the *post hoc*, we have come little by little to the *propter hoc*. Succession has become to us a cause, owing to the intensity and repetition of the accompanying sensations. Imagination has perpetuated the effect of these sensations and

[1] "Treatise on Human Nature." David Hume.

given them a certain duration. Hence we have drawn the law of induction which transfers to the future the order of succession verified in the past. This is a mere intellectual habit, founded upon experiences which have assumed the character of necessity. These sensations, retained in the mind in their accidental succession (which yet from its frequency appears to us constant), have given us the idea of an organised world without us. We have thus given a fictitious identity to their common or persistent elements, and so have arrived at the illusion of matter.

By a like process, we have elaborated theidea of *self*, which is the resultant of the elements common to all our perceptions. This personal identity is only a sort of summation of experiences bearing a close resemblance to each other. Hume made faith in God the crowning point of his otherwise absolute scepticism, as though to keep right with the reigning beliefs and perhaps with his own aspirations also.

We shall not stay to refute Hume, because it will be more satisfactory to deal with his system in its perfected form. We will merely object here, that he has not anywhere explained the primary fact of the *impression* which is the pivot of his system; for in order that a sensation may be produced, it is necessary that the object exciting it should impress itself upon the subject receiving it. Hume leaves this primary fact suspended as it were *in vacuo*, without telling us to what it relates, since he has no account to give of the organism or of the mind, both of these vanishing away into chimeras of the imagination. He has, moreover, never shown that sense-impressions are the only source of our ideas, for, according to his own theory, the idea sometimes precedes the impression. By making induction a purely fortuitous and empirical process, he takes away from it all certainty.[1] The other objections that may be urged against Hume, on the ground of his utter failure to explain this *self*, which he declares to be "nothing but a bundle or collec-

[1] See Robert, "De la Certitude," chap. xii.

tion of different perceptions," and yet which is accredited with intellectual power sufficient to connect impressions and give them coherence, will come before us in the discussion of the theory of the association of ideas in our own day. We have already said that Stuart Mill endeavours to explain by sensation alone those categories or forms of thought which from their permanence or universality appear to him intuitive, and which seem to arise within our own minds and not from without. Such is the principle of causation, which makes us always connect together consequences and antecedents. The idea of a substance which underlies all attributes, is not less innate and has all the marks of intuition. Again, we cannot help associating with everything a certain place in time or space. Lastly, we are conscious of the ego and the non-ego. This is what may be called the intellectual *à priori*. We shall speak presently of the moral *à priori*. It is this intuitive element which Stuart Mill, following Hume, seeks to disprove.[1] Not satisfied with assigning its legitimate share in our knowledge to the sensation which supplies its outward material and its stimulus, he makes sensation the one source of all knowledge. According to him, there is not an idea or a principle which is not explained by his famous theory of the association of ideas which are themselves the simple products of sensation. Ideas associate themselves according to certain fixed laws, which Stuart Mill endeavours to define. These laws are three. First: "Similar phenomena tend to be thought of together." Second: "Phenomena which have either been experienced or conceived in close contiguity to one another, tend to be thought of together. The contiguity is of two kinds: simultaneity and immediate succession." Third: "Associations produced by contiguity become more certain and rapid by repetition. When two phenomena have been very often experienced in conjunction, and have not in any single instance occurred separately, either in experience or in thought, there is produced between them

[1] "Examination of Sir William Hamilton's Philosophy." Stuart Mill.

what has been called inseparable association."[1] The disposition of our mind to associate all phenomena with causes, is a mere habit which grows out of this constant association of concomitant ideas. Mr. Mill recognises no necessity to derive the principle of causation from the depths of his own nature; what he calls by that name is only the result of accumulated experience. He has made an important advance in his own evolution, when, after experiencing certain sensations, he has prolonged them by the force of memory and has represented to himself their continuation by the imagination. From this point he has no longer been content with present and fugitive sensations; he has formed the idea of possible sensations. These possible sensations at once assume for him a character far less ephemeral than present sensation, which is but momentary. They present themselves to him in the correlation of antecedents and consequents, and he regards all his actual sensations as subject to the same law. These possible sensations have thus formed for the mind a sort of fixed organism, which it soon comes to regard as the inexhaustible and constant antecedent of its present sensations. By referring the latter to the former, he comes to form the idea of a resistant substance underlying the fluctuations of present sensations. Thus the notion of substance, like that of cause, has been evolved out of sense-experience by its own natural operation, without any previous intuition. The fact that the same possible experiences present themselves to all men, has invested the external world with a character of reality and objectivity which has given rise in the mind to the idea of corporeality and of matter. The idea of space and time has arisen out of the constantly repeated experience, that we can always suppose a point beyond that at which we have arrived, a moment after the actual moment. We always imagine to ourselves other points beyond those we have seen. The law of association of ideas thus

[1] "Examination of Sir William Hamilton's Philosophy," Stuart Mill, pp. 225, 226.

gives us the notions of the infinite and of space. We arrive at the consciousness of the ego, by the very distinction which we spontaneously make between the possible sensations, which our imagination has formed into an organisation external to ourselves, and our faculty of experiencing the sensations of the moment. These constitute the ego. The association of ideas constantly recalls this opposition between present and possible sensations, out of which grows the consciousness of our own personality.

Such is in outline this scheme for explaining fully the subject by the object, the human mind by sensation. It will not bear investigation. We raise first, without dwelling on it, the preliminary objection which we made to Positivism, calling in question its right to use the inductive method. In order to elaborate this theory of knowledge,—or, let us rather say, to found a science of any kind,—we must argue from actual to future phenomena in every case in which the circumstances are identical. If this is not admitted, all that is possible is the verification of the fugitive sensation of the moment. We have the impression of the animal, not the knowledge of the man. But again, what right have we to conclude from a phenomenon perceived by sensation alone, that it would be certainly repeated under analogous conditions? Sensation affirms nothing of the sort; for it is essentially transitory and momentary, and in order to generalise, anticipate, argue, we need something more; we need an act of the mind. Stuart Mill indeed recognises this objection in some degree, for he admits that the laws formulated by him are only valid under our present conditions. We have then no guarantee of their permanence.

He has not, like the early Positivists, contented himself with the simple induction which predicts the return of phenomena under conditions already known. We have seen how much importance he attaches to the notion of possible sensations, from which alone he derives the idea of substance and corporeality. But this conception of possible sensations har-

monised into a great system, cannot be said to be in any sense, the spontaneous product of present sensation. The possible which is simply the virtual, eludes it altogether; sensation has to do only with the real. It can doubtless prolong the real in imagination; but between this and the conception of a world, a system of ordered and graduated possibilities, there is a gulf which sensation alone can never bridge over. The ideas of substance and of corporeality are not then a mere evolution of present sensation even when this is prolonged in imagination. The idea of the infinite in time and space is something altogether different from the supposition of a possible fresh point always following on the one just reached. Prolongation is not infinity; the infinite implies something more than the mere juxtaposition of points. All the known points plus one, do not give the notion of space or of time. To assign to these points their place in boundless time and space, it is necessary for the mind to know intuitively what time and space are. The idea of cause cannot be reduced to that of mere succession; a million of antecedents followed by consequents would only give antecedents and consequents, not cause and effect. Of this we have conclusive proof in the incontestable fact, that there are invariable successions which will not come under the category of cause and effect. Day invariably succeeds night, and yet it is not the night which produces the day. If then there is an essential distinction between succession and causation, we must seek the notion of a cause elsewhere than in succession, that is to say, outside of material things; we must seek it in the subject itself, in the mind. Again, as has been observed by M. Janet, the association of ideas, when it arises out of sensation only and is left to itself, never leads to a logical sequence of thought. We are familiar with such associations in sleep; in dreams we are the sport of our sensations. The result is a wild medley of ideas, though we can often, with a little attention, trace the broken and tangled threads which have been linked together in our memory, and the first impressions which pro-

duced this inextricable confusion. In order that our ideas should be connected in a normal manner, we have to control and watch them, and to keep them within reasonable bounds; in a word, we have to exercise the active faculties of our mind. The purely external and fortuitous connection of ideas differs altogether from the logical association, which is an act of thought.[1] Stuart Mill does not see that his whole theory of the association of ideas is one gigantic *petitio principii*. What is he aiming at by this means, but to explain the presence of the idea of cause in the human mind? And what does this mean but that he is endeavouring to find out its origin? Thus in the very effort which he makes to get rid of the principle of causation, he pays homage to it and sanctions it; for after all, the association of ideas is the cause of the idea of cause; it professes to give at once the *how* and the *why*, and in working it out, Mr. Mill has been constrained to appeal constantly to the principle of causation. The inadequacy of his theory is most striking when we look at his explanation of the consciousness of the ego. How is it possible to reduce the ego to a mere residuum, an aggregate of converging sensations, even if we ascribe to it no higher functions than Mr. Stuart Mill does? In order to associate two ideas, it is needful that the ego should at least be conscious of longer duration than either of them, in order that he may master and connect them. It is not possible that the ego should be simply the sum total of these two ideas or sensations, since it is able to bring them together and to associate them. If it were so, it must be defined as an addition sum adding up itself, which would be nonsense. Beside the element of duration which distinguishes the ego from its sensations, it possesses also an element of activity, an energy peculiar to itself, and without which it would not associate its sensations, for to say that they associate themselves as they pass through the mind, is to say nothing. Either they simply pass through the ego and leave no trace, or they mark

[1] Janet. "Psychologie," chap. v., pp. 51, 92.

their passage by encountering a reaction from it. This reaction implies an active element, something which is not simply wave succeeding wave, but a force distinct from them. In order that the chain of association may be perceived, that is, may have the slightest reality, it is indispensable that at least one of the links should be separate and raised above it, and should have consciousness of this. The fact of consciousness implies the distinction between the object and the subject, or it is nil; without this there is neither thought nor knowledge, simply a movement of things which, leaving no trace, is as though it had never been.

Stuart Mill was conscious himself of the insufficiency of his explanation of the ego. Thus he frequently uses terms which do not coincide with his theory, as when he speaks "of that reality which by the grouping of phenomena establishes the law of beings, and connects the immediate and actual with the mediate and possible." In order to accomplish such an operation, mind must be more than a bundle of sensations, or an aggregate of impressions. With his loyalty to truth, the great thinker has himself acknowledged that we cannot content ourselves with Hume's explanations of this capital point. He says: "The inexplicable tie or law, the organic union (as Professor Masson calls it), which connects the present consciousness with the past one which it recalls, is as near as I think we can get to a positive conception of self. That there is something real in this tie, real as the sensations themselves, and not a mere product of the laws of thought without any fact corresponding to it, I hold to be indubitable. . . . This original element, to which we cannot give any name but its own peculiar one without implying some false or ungrounded theory, is the ego or self. As such I ascribe a reality to the ego—to my own mind—different from that real existence as a permanent possibility, which is the only reality I acknowledge in matter." [1]

[1] "Examination of Sir William Hamilton's Philosophy," Stuart Mill, p. 262.

This is the fixed point we have been seeking, the reality of the ego; and incomplete and mutilated as this reality may still be, it is something we can take hold of. Without this fixed point thought is lost in the void, for the most we can arrive at from the analysis of our ideas is only a sensation, that is to say a representation. By what or by whom has it been produced? What is there behind it? We are allowed to suppose nothing beyond, and thus we are kept in a vicious circle of representations which represent nothing, and which have no medium on which to fall. No ray, no reflector; this is the negation to which we are brought if the ego has no reality. Unhappily Stuart Mill has been content to make memory the sole and very inadequate factor of the ego. His theory of morals never rises above utilitarianism, so that it ignores the most indestructible basis of the ego, the moral absolute.

2. Herbert Spencer.

Herbert Spencer has supplemented Stuart Mill's explanation, by his theory of evolution. He has given full scope to the association of ideas by including the broad field of heredity, which takes us far beyond the narrow limits of the individual life, for heredity implies the succession of generations through countless ages. Each generation may have added its contingent to the intellectual treasure which constitutes the human mind as we know it to-day, and which is the slow accumulation of centuries of human experience. Herbert Spencer closely associates his psychology with his cosmology, which we shall only look at now as it comes under the problem of knowledge, reserving to a subsequent chapter the discussion of its principles. He bases his whole system upon one axiom—the persistence of force, which can neither be augmented nor diminished, but merely transformed. This force, ever the same, is the primordial homogeneous unity, which by an inward necessity is ever tending to the heterogeneous, or to the

differentiation which produces an ever-progressing definiteness in the organism. The organism tends constantly to adapt itself to the element in which it lives. Hence its growth, its evolution from the lower stages of indefiniteness to the fullest, most comprehensive and definite life, such as we find in man. In his theory of knowledge, which alone is before us for the moment, Herbert Spencer contents himself with deducing the consequences of his cosmology. Knowledge also has passed through numberless phases from the lower degree to the higher, in conformity with the twofold law of the necessary transition from the homogeneous to the heterogeneous, and of the adaptation of life to its environment. Intellectual life is not at first distinguished from physical life. It grows up little by little by successive additions. There is a continual progression from the reflex action by which the infant seeks the breast, to the intricate reasoning of the adult. This progression is illustrated by the differentiation and specialisation of climates, which at first were all involved in featureless homogeneity. Intelligence, which at the outset is reflex action, becomes instinct, then memory, then reason, as little by little it adapts itself to its conditions. The accumulation of experiences and hereditary transmission play a large part in this evolution of intelligence. Thus, that which was at first only an experience, an association of ideas, becomes a notion so identified with thought, that it has all the appearance of intuition. The hereditary perfectly resembles the innate. The individual man does not need to-day to act, like his first ancestors, on experiences and associations of ideas or of sensations, in order to acquire fundamental notions of his own reason; it suffices that these have been acquired by earlier generations; they have been directly transmitted to him, and he makes use of them as if they originally formed part of his mind. It is of little consequence that these foundations of his intellectual life have been formed, as certain rocks are formed, by slow accumulation of grain after grain of sand. The lapse of ages has cemented them in such a way that they

fulfil the functions of the intuitive and axiomatic ideas of the old psychology; for these notions were not always axioms, they have only become so. They are not necessary, in the sense that they are not eternal and absolute, not based upon the very constitution of the mind; but they are so now, for they can never be destroyed. This is all the more impossible because the physical organ of mind has itself been modified under the influence of these acquisitions of experience, and it has increased in bulk. Heredity has modified this as it does the other organs, and the brain of the European is appreciably larger than that of the Papuan.

Applying these general theories to the principal ideas which have been regarded as original or intuitive, Herbert Spencer, following Stuart Mill, endeavours to show that the notion of space and time proceeds from an experience of the senses. Time is the generalisation of all the experiences by which we perceive things in succession, as space is the abstract of all those in which we perceive co-existence. These experiences have their origin in the exercise of our muscles, which give us the sensation of force. Light, electricity, magnetism, chemical action, the motion of matter, vegetable, animal, intellectual life, all this is persistent force, or energy. The vital forces are the forces from which our thoughts and feelings spring, and which expend themselves in producing them. Hence Herbert Spencer argues that thought is only a transformation of molecular motion.

The theory of evolution does not seem to us to render empiricism more plausible than before. First, it has to encounter the same objections as the theory of the association of ideas, on all the points on which it is in harmony with it. It claims to facilitate it by the introduction of heredity, which gives it an indefinite length of time to produce its combinations and weave its complicated web. But we reply, Time is no element in the question. Sensations do not acquire any fresh virtue by multiplication and combination through myriad ages; they remain

passive, successive, transitory, and we are entitled to ask: whence did they derive this strange power of combining, generalising, and finally arriving at abstract conclusions? This implies positive mental activity; how can it be evolved from the purely passive? We fail further to understand how heredity can constitute this ego conscious of itself and of its modifications. It is not distinct from its sensations, for it is nothing more than a "parcel of impressions," and yet it connects and concentrates them, and forms ideas from them; nay, more, it feels itself to be stationary and resistant in the midst of incessant modifications of its environment. This is a mode of existence *sui generis*. How has it been produced in the child, if it was not in the parent? We must frankly acknowledge with Stuart Mill, that the identity of the ego cannot be explained by mere association of ideas. Ideas might be passively associated through endless ages, but they would never give birth to consciousness, which is shown to be something apart from them by the very fact that it apprehends their connection.

If we pass on to the intuitive ideas, which are said to be the result of accumulated experiences, we at once perceive that Herbert Spencer is not more successful than Stuart Mill in explaining them. He refers the idea of time to that of a perceived sequence, and the idea of space to that of co-existence; but these words, sequence and co-existence, are properly only equivalents of the ideas of time and space, which amounts to saying that, in order to obtain the experience of time and space, we must already have the pre-conceived idea of them. The fact that two movements follow one another, does not imply the idea of succession indefinitely prolonged, any more than their coincidence implies their continuous co-existence. It may be objected again, that the idea of succession and of co-existence comes with our dimmest and lowest perceptions. Hence it follows that time and space force themselves upon the elementary perception without requiring any

lengthened experience. If we were confined to our sensations, we should have a vague sense of simultaneousness, but none of a continuous co-existence. The ideas of time and space then precede the experience of succession and simultaneousness, above which our senses alone would never raise us. M. Janet well says: "Even if all the laws of mind were reduced to the association of sensations, hereditary or otherwise, there is at least one law which could not be included—the law of association itself; for all association implies the presence of two differing sensations in the same consciousness. Thus the unity of consciousness, the *thinking I*, is at the bottom of all. Mere succession or simultaneousness is only an external relation between two sensations; there is still needed a connecting link, a principle of synthesis."[1] The idea of time could not in any case be explained by the mere association of sensations, for it must precede all associations. In order to associate sensations, there must be the notion of a certain succession and a certain simultaneousness, which implies the relations of time.

Herbert Spencer has not been faithful to his own system. How could he fail to see that he had introduced the wolf into the sheep-fold, when he brought in the *à priori* by his famous axiom of the persistence of force? He affirms this without proving it. It is with him a true postulate, and by virtue of this postulate he refuses us the right to accept any others. The contradiction is flagrant. The use which he makes of his axiom is moreover quite unwarrantable. From the persistence of force he concludes that there is but one manifestation of force, the mechanical; and from this he professes to derive by evolution all the manifestations of life, thought included, without ever explaining how motion is transformed into thought. Matter seeking to understand itself, is no longer matter; motion which is conscious of itself, is no longer mere motion.[2] Evolution cannot give more than it

[1] "Traité de Philosophie," Janet, chap. ix., p. 214.

[2] Charles Secrétan, "Discours Laïques," IV. "Phénoménisme."

possesses. The total of an addition cannot be more than the sum of the figures composing it. Before we can derive thought (not to speak of the moral life) from mechanical force, new quantities must have been surreptitiously brought into the operation.

This then is, in short, the decisive objection to the theory of evolution—it is necessarily unfaithful to its own principle. It introduces at every step of development between the antecedent and the consequent, an element which was not in the antecedent. "However small the interval may be, it cannot be crossed. The second state is the first *plus something*. Every specific difference is irreducible by thought to the preceding quantities."[1]

The development of mechanical force does not explain that which is added to it in the different stages of development; it accounts for the series of mechanical phenomena, but not for the successive forms of which they are, so to speak, the substance. There are but two alternatives. Either that which pertains to the final outcome of development was implicitly included in its principle, and then the principle was not simply mechanical; or else, something new has been introduced to produce the development, and this new element raises us above the merely mechanical. We have not to do with the simple transformation of one form into another; in either case, evolution fails to explain the phenomenon. This reasoning is perfectly applicable to the psychology of Herbert Spencer, which recognises only a simple evolution of mechanical force, from reflex movement up to reason, taking instinct by the way. "It is impossible not to perceive that from the reflex movement to instinct, and from instinct to reason, there is an accumulation the elements of which were not contained in the previous states. Where were those elements? Were they contained in the object of knowledge, in that which we call the world? Then the laws of thought would be the very laws of the world, its

[1] Liard. "La Science et la Métaphysique," Livre V., chap. x.

primordial laws; the world would have been created in harmony with them, and would find its own mirror in the mind of man. What then becomes of the evolution of mere mechanical force, if this does not include the entire object, if the object eludes it in part, by virtue of these principles of higher development? The laws of mind, being the laws of the world, cease to be subjective; they become objective, and phenomenalism is at an end. It is indeed quite another thing if they are fixed laws inherent in the subject himself. Then the theory of evolution at once collapses. But if the laws are neither in the object nor in the subject, then evolution commences in pure negation; and since it can only produce what it contains, psychology must stop at reflex movement, and strike off all its higher developments, since they are incapable of explanation. There is no escape from this dilemma. Either these universal notions are germinally present when evolution begins, and if so evolution does not create them, it only develops them, and the forms of thought have an absolute beginning; or else they appear at some stage of evolution, and then their beginning is equally absolute."[1]

II. French Psychology.

M. Taine's Theory of Intelligence.

M. Taine's book "On Intelligence" belongs entirely to the new psychology. It is characterised by all his peculiar originality and vivacity of style, but the thought is essentially the same. With the exception of a few points, therefore, we need not repeat the arguments we have already advanced against the theory of association of ideas. M. Taine has made French fireworks with English powder. The figure is a perfectly fair one, applied to his system, for to him the world is nothing more than a great show of fireworks, only that there is no maker of them, and the rockets go off of their own accord

[1] Liard, "La Science et la Métaphysique."

and describe their wonderful arcs spontaneously, while no one can tell how the strange play began. This system of M. Taine is characterised, in fact, by a strange mixture of absolute materialism and the wildest idealism. He reduces sensation to mere molecular motion, transmitted to the nerves; and yet matter, after all, is nothing, and bodies are as much "metaphysical phantoms" as is consciousness. Let us give his own summary of this singular system in his own figurative language.

"All science," he says, "leads to generalisations, venturesome perhaps, but still not to be rejected, for they are the top-stone of the whole edifice, and it is in order to climb to this high look-out point, that generation after generation has gone on building. Psychology also has its look-out, all the more elevated, in that it goes back to the origin of our knowledge, and at once leaves behind the ordinary point of view, which is simply the useful and practical. As we rise from this standpoint, we at once perceive that there is nothing real in the ego, save the thread of its events, that these events, various in aspect, are the same in nature, and all traceable to sensation; that sensation itself, regarded from without and by that indirect medium which is called external perception, is reduced to a group of molecular motions. A continuous flux, an aggregate of sensations and impulses, which, looked at in another aspect, are but a flux or aggregate of nervous vibrations—this is the mind. This pyrotechnic show, prodigiously multiform and complex, is built and for ever being re-built of a million of sky-rockets: yet we never see anything but its topmost flights. The greater part of ourselves remains beyond our own field of observation. The visible ego is immeasurably smaller than the obscure, invisible ego. This ego is but a leader of the rank and file, a higher centre beneath which are ranged, in the segments of the spinal cord and in the nervous ganglions, a crowd of other subordinate centres, so that man, as a whole, presents a sort of hierarchy of centres of sensation and of motion, each con-

trolled by a more perfect centre, which sends its general orders to them all. If now, after mind, we look at nature, at the very first step, we leave ordinary observation behind. Just as spiritual substance is a phantom created by the consciousness, so material substance is a phantom created by the senses. Bodies being nothing but moveable motors, there is nothing real in them except their motions, to which all physical events are to be traced. But this motion is traceable to a succession of sensations infinitely simplified and refined; thus physical events are only a rudimentary form of moral events, and we come to conceive of body on the model of mind. The one and the other are a current of homogeneous events which consciousness calls sensations, which the senses call movements, and which from their nature are always in the act of perishing or being born. Beside the bundle of fireworks in ourselves, there are others analogous, which compose the corporeal world; they are different in aspect but the same in nature, and their graduated jets of light fill, with ours, the immensity of space and time. An infinity of rockets, all of the same sort, but of varying complexity and flight, are incessantly and eternally shooting up and falling again into the black void; such are the things we call physical and moral existences. Each one of them is only a line of events, of which nothing is durable but the form; and we may represent nature to ourselves as a great Aurora Borealis."[1]

The theory which is here enwrapped in a gay mantle of metaphors, may be expressed in sufficiently simple terms, especially if we bear in mind the ample extension given to it by its author. Though it is substantially the same as the English theory of association, it is worth our while to linger a little over this French development of the new psychology. We find in it the fundamental principle of the school—that all knowledge must be referred to sensation. This is identi-

[1] Taine. "On Intelligence," Introduction.

fied with molecular motion, at least in its obscure beginnings, in that dim background which exists before consciousness. After emerging from this nebulous condition, sensation has to undergo a complicated process before it is organised into that well-compacted fabric called the ego, which is nothing more than the continuous web of its successive events. Evidently it would have been quite incapable of this combination, which implies a certain persistence, if it had remained in its original state, for sensation, simply as such, is essentially fugitive. In order to start this further process, two factors are necessary, memory and the faculty of abstraction, of generalisation. Generalisation is essentially a mechanical process. In order that a sensation may become fixed, it must take the form of an image; this is its substitute, but not its equivalent; inasmuch as it is no longer *actual* sensation, which alone is the real. These images would be too cumbersome, if they also had not their substitute. This they find in the *sign*, which is an isolated image recalling the series to which it belongs; or at least the couple of which it is one of the terms, without its being necessary that the two terms should be represented at once. Thus, when we see from the top of a monument a number of black spots, we know that these black spots are living bodies, human beings. Proper names are signs representative of images. The faculty of abstraction and generalisation renders a sign ever increasingly comprehensive, and by enlarging the memory, permits the growth of the fabric of sensations, which, by the association of images, constitute the ego. "It seems then that nature has undertaken to provide in us representatives of her events, and has effected her purpose in the most economical way. She has provided first, the sensation which interprets the fact with more or less precision and delicacy; then the surviving sensation, capable of indefinite revival, that is to say, the image which repeats the sensation, and consequently translates the fact itself; then the name, a sensation or image of a particular kind, which,

by virtue of its acquired properties, represents the general character of many similar facts."[1]

By generalisation after generalisation we arrive at the notion of those "possible sensations" which play so large a part in Stuart Mill's system. This idea of possible sensations obtained by a sort of spontaneous induction, becomes a permanent faculty and completes the ego, the evolution of which began with the association of images. The ego is thus the possibility of receiving new and identical sensations under analogous conditions. If this possibility, regarded subjectively, completes the notion of the ego, so, objectively considered, it constitutes body, for matter is nothing more than a cluster of properties tending to excite particular sensations. As to the so-called intuitive ideas or axioms, they in no way proceed from the essential constitution of the human mind; they only result empirically from the affective associations which have been formed between ideas and sensations. The idea of cause is only the generalisation of the simple association between antecedents and consequents. It follows that just as the ego is a compound abstract, so all so-called intuitive ideas are only generalised associations.

The large part assigned to abstraction and generalisation explains how it is that everything beyond molecular motion, whether in the subject or the object, is chimerical to M. Taine; for it is of the essence of abstraction and generalisation to get ever further and further from reality, that is, from actual sensation, though reality derives from sensation its first transformation. This ego, which is only a compound abstraction, is then a mere phantom. Body, the material element, which is nothing more than a possibility of sensation, is equally phantasmal. Our perceptions are but hallucinations, their mutual concordance is all that we know of truth. Thus the rockets rise and fall in the black void.

[1] "On Intelligence," Henri Taine, Part I., p. 150. English Translation, by T. D. Haye.

This is the most reckless idealism ever conceived. And yet, by a strange inconsistency, M. Taine insists upon the close correlation that ought to subsist between the formation of general ideas and the physiological organ of sensation which has its seat in the brain. He says: "By the side of sensations strictly so-called, which are by their nature temporary, dependent on the vibration of the nerves, almost always incapable of reviving spontaneously, and situated in the centres of sensation, there is within us another series of absolutely analogous events, which are by their nature durable, which survive the vibration of the nerves, are capable of reviving spontaneously, and are seated in the cerebral lobes, or hemispheres. These are what we term images. Here are a second group of sensations so similar to the first that we may call them, reviving sensations."[1] These groups, more or less complex, constitute, according to the kind and degree of their affinity or antagonism, perceptions of external events, recollections, previsions, or acts of consciousness properly so called. Lastly from the signs which are the substitutes for these images, general ideas and general judgments are formed.

This physiological point of view is still more clearly marked in the following passage: "We know that all ideas, all cognitions, all the operations of the mind, are composed of associated images, that all these associations depend on the property of images to revive, and that images themselves are sensations reviving spontaneously. All this agrees with the teaching of psychology. An action is produced in the sensitive centres; it there excites a primary or crude sensation. An *exactly similar* action is consequently developed in a cortical element of the cerebral lobes, and there excites a secondary sensation or image. The first action is incapable, and the second is capable, of reviving spontaneously. Consequently the crude sensation is incapable, and the image is capable, of reviving

[1] Taine. "On Intelligence." English Translation, by T. D. Haye, p. 226.

spontaneously. . . . The more extensive the cortical matter of the brain, the more elements has it capable of setting one another in action; the more elements it has capable of setting one another in action, the more delicate an instrument of repetition it is. The brain, then, is the *repeater* of the sensitive centres, and it will the better fulfil this office the more numerous the repeating elements of which it is itself composed." [1]

Here we are plunged in undiluted physiology; everything is explained by the constitution of the brain. This would be very well if the brain did not itself form part of that body which is nothing but an abstraction, a possibility of sensation, and which has no right therefore to play an exceptional part as if it were something altogether different. The contradiction is flagrant, and extends to all the historical theories of the eminent writer, who has uniformly maintained the all-powerful influence of the material medium on the development of humanity. This material medium itself is but a chimera of the generalising faculty, and cannot claim a footing in the domain of the real. How then can it exercise this influence? Mind and body are but two aspects, the obverse and the reverse, the outer and the inner side of one and the same abstraction.

It is not simply upon this point that the system of M. Taine presents insoluble contradictions. I need only allude again to those which have been already pointed out in the theories of his predecessors, namely, the impossibility of basing any induction upon sensations which are in their nature fugitive, and incompetent therefore to form the basis of any anticipations of the future; the inadequacy of the theory of association to explain the memory, which is inseparable from the consciousness of personal identity, or to rise to the conception of the possible, which altogether eludes the grasp of the senses; and lastly, the irrationality of the idea of an ego which would be altogether

[1] "On Intelligence," Henri Taine. English Translation, by T. D. Haye, p. 176.

incapable of connecting ideas unless it possessed a power of combination apart from the elements to be combined. This last objection is made all the more forcible by the importance attached by M. Taine to the singular faculty which he supposes man to possess, of "apprehending fixed analogies and recognising the relations between separate objects." I ask, how can sensation perform such a task? If it is simply a movement of molecules, how is it capable of perceiving analogies, and determining relations? Whence this unifying power in that which is essentially fluctuating and non-coherent? Whence this wondrous faculty of generalising which is to generate the ego, if the ego has no previous existence? It must needs exist before such a power can be exercised at all, for to generalise is to gather into harmony and order elements before scattered and confused. We cannot escape from this vicious circle. M. Taine compares the intellectual life to a comedy in which the actors come on in succession to repeat their part; but he does not tell us who wrote the piece and distributed the parts. I know indeed that the last word of the charade is man; but how can he be the last, if he is not also the first? Can the power which has so arranged and disposed everything as to bring so many scattered elements to a focus, be anything less than the ego itself? Elsewhere M. Taine compares the intellectual life to a wonderful system of telegraphy transmitting the despatches which it has collected; but where is the telegraphist?

We will not dwell further on these objections, which we have already urged against the English systems. Let us now look at M. Taine's idea of sensation, which is equally paradoxical. He hazards a gratuitous hypothesis which does not even approximately solve the problem. Not only does he admit with perfect candour that the properties of the cell entirely elude the most delicate instruments of physiological experiment; but he also allows that the transition from molecular motion to sensation, even when reduced to its simplest

elements, is one which science fails to trace. "In fact, whatever may be the structure of the nerves and nervous centres whose action excites a sensation, however various this structure may be supposed, that which is transmitted from one end of the nerve to the other up to the ultimate nervous centre, is never more than a molecular displacement, more or less rapid, extensive, and complex. A particle has a certain situation with respect to others; this situation changes, that is all. At the bottom of all the sciences relating to bodies we find mechanics. So that the different nervous actions, which excite different sensations, can only be conceived as systems of movements. Thus all these actions, though differing in quantity, are the same in quality. . . . At the foundation of all bodily events we find an infinitesimal event, imperceptible to the senses, a motion whose degrees and complications constitute the real basis of all phenomena, physical, chemical, or physiological. At the foundation of all moral events, we guess the presence of an infinitesimal event, imperceptible to consciousness, whose degrees and complications make up all sensations, images, and ideas."[1]

In order then to establish the theory of consciousness, sensation ought to be capable of being reduced to motion. Now M. Taine appears to give in his adherence to this decisive utterance of Tyndall: "The gulf which exists between these two classes of phenomena is always impassable to the intellect." He admits, with the famous English physicist, that "No motion whatsoever, whether rotatory, undulatory, or otherwise, bears any resemblance to the sensation of bitterness, cold, or pain." How can we understand it when, after this, M. Taine goes on to identify motion with sensation, and declares that we have in both only one and the same psychical event, simply apprehended by us in two different ways? He says: "While sensation is immediate in its character, the molecular motion

[1] "On Intelligence," Henri Taine. English Translation, by T. D. Haye, pp. 148, 149.

is only mediately perceived through the several intermediaries of our senses. Sensation is felt within us, the motion, on the contrary, comes from without." Hence he boldly concludes that the cerebral and the mental event are essentially one and the same under two aspects, the one mental, the other physical, the one perceived by the consciousness, the other by the senses. But the argument fails; for as soon as there is consciousness, motion is distinguished from sensation. Their identity can only be maintained by plunging into the obscure depths of unconsciousness, of which we can know nothing. As soon as knowledge comes in, the difference is recognised. This is a difficulty which can only be got over by having recourse to the singular method of explaining the clear by the obscure, the familiar by the unfamiliar, the greater by the less. It is obvious how uncertain must be a system of knowledge which rests upon a foundation sunk to such unknown depths that it eludes all our calculations. This system comes to us from the depths of an impenetrable mystery. It may not attempt to dispel the mystery, for sensations must of necessity be identified with molecular motion, or we have a thinking, conscious subject, a human mind rising above the vortex of sensations, or rather, of molecules.

We have purposely passed by all that relates to the moral absolute, which vanishes into thin air in the psychology of M. Taine, as in all empirical theories. Yet, as we shall see presently, this is the most solid basis of the *à priori* and of the reality of mind. We think we have shown, however, without diverging from the premisses of the French philosopher, that it is not possible for him to be consistent with himself in his strange medley of materialism and idealism, and that he fails to support even his own theory of knowledge, or to save it from insoluble contradictions.

III. The New German Psychology.

Materialistic and Sceptical Theories of Knowledge.

We shall not dwell at any length upon the attempt made also by the new German psychology to suppress the ego, the *à priori;* for so far it has exerted far less influence upon the thought of the day.[1] It aims principally at identifying, as M. Taine has done, physical and moral events, so that they appear as the same fact under two aspects.

This school does not assign so large a place as the English school to the association of ideas. It dwells more upon the fact of the sense-perception, which it endeavours to trace back to its physical concomitant. It would not be exact to say that it had its precursors in such psychologists as Herbart, Beneke, or even Lotze, although the school has largely profited by the writings of Herbart on the statics of mind. He attempted to reduce the phenomena of consciousness to simple mathematical laws, basing his argument on the principle that our representations may be considered as forces, sometimes balancing, sometimes outweighing each other in intensity. In the former case, they neutralise each other and remain in the state of mere tendencies. In the latter case they give rise to a state of consciousness just in proportion as they pass the point of neutralisation. Herbart endeavoured, taking these principles as a starting point, to formulate a sort of mental statics, and to measure the reciprocal relations of the representations, the sum of which constitutes consciousness. He still recognised nevertheless the reality of the soul, and refused to identify psychical and physical phenomena. Beneke also maintained the same distinction. According to him, the phenomena of consciousness tend constantly to pass into unconsciousness, an obscure region where they accumulate in the state of *traces*,

[1] See M. Ribot's remarkable *résumé* of contemporary German psychology, "De la Psychologie Allemande Contemporaine. École Expérimentale." 1879.

free to resume consciousness under any new exciting cause. Lotze attaches great importance to what he calls *the local signs*, which tactile and visible impressions leave after them on the points where they are produced. As these are apart from one another we obtain from them the empirical idea of space. He admits, nevertheless, the intuition of space, without which we should never arrive at the knowledge of it. He recognises a metaphysical element, and maintains that the soul is a substance.[1]

Fechner belongs entirely to the empirical school. Establishing a complete correlation between sensations and their stimuli, he professes to give the chronological measure of the former, taking account of the fact that the stimuli increase more rapidly than the sensations in appreciable proportion. It is evident that such calculations will be always uncertain, for an external yard-measure must always be too coarse to appraise so delicate a phenomenon as sensation. Fechner himself, recognising that there is always a discrepancy between sensations and their stimuli (for these, by wearying our organs, deaden them more or less, and prevent the exact correspondence which he had predicated) has recourse in the end to what he calls a physico-psychologic activity, which amounts after all only to a vague something inexplicable by physiology, which we call the ego.[2]

Wundt vainly strives to give us a physiological psychology. He also runs up against the sphynx and encounters the x, the unknown quantity indeterminable by any of the purely mechanical theories. According to Wundt, we possess a principle of unification of phenomena which seeks for unity under complexity. It is this which gives unity to consciousness, for it is essentially complex and multiple under its apparent unity. The principle which brings it into unity, is outside itself, in the obscure laboratory of unconsciousness, that is to say, in the physiological life. This unifying principle,—by a sort of logical mechanism,—draws conclusions spontaneously from

[1] Ribot. "Nouvelle Psychologie Allemande," p. 201. [2] *Ibid.*, p. 210.

the premisses given. Sensation is the first and last of these conclusions. The sensations form new premisses, whence the unifying principle deduces ideas, which are never more than the combined results of sensation. General notions are derived from ideas by the same processes. The ego does not exist by itself; it is the conclusion of a train of reasoning. The acts which give it birth are the psychical processes of sensation and perception, and the physiological facts of innervation. Wundt's conclusion is, that mechanism and logic are identical. The complex acts of psychology are at once facts of the consciousness and states determined by the nervous system. In their physical aspect, they are only movements; as states of consciousness, they are reduced to simple conclusions of the logic of unconsciousness, that is to say, they are still purely mechanical. Wundt has attempted to apply the experimental method to psychology. He professes to measure psychological time by determining first the duration of the sensitive transmission, then that of the perception and reaction; but this determination must always be very arbitrary, for the duration of the fact of consciousness varies according to the external or internal conditions of the subject. The fact of consciousness is more or less rapid according to the degree of attention. Wundt admits, therefore, that he has not yet been able to formulate a law. He thinks he has established by observation that the physiological time varies from $\frac{1}{15}$ to $\frac{1}{19}$ of a second, and that the simplest intellectual act requires $\frac{3}{100}$ of a second; its reproduction by memory requires a longer time. These calculations do not at all imply the unification of the physical with the psychical event, and they furnish no explanation of the transformation of motion into sensation or into thought. Wundt has also omitted to show how the physical is endowed with logic, and how a principle of unification can be formed spontaneously in the obscure depths of unconsciousness; that is to say, of the purely material life. To explain consciousness by unconscious-

ness is to violate the primary scientific law of empiricism, namely, the law of induction, which requires us always to rise from the better known to the less. To relegate to the unconscious state the principle of unification which is manifested in the conscious state, is to invert the pyramid and make it stand on its apex. There is no ground for glorying in such a grand discovery. M. Ribot, notwithstanding his admiration for this new German psychology, which he has so well elucidated, avows frankly that, if the psychical life consists in a series of states of consciousness connected with physical states, two things nevertheless remain perfectly inexplicable, after all the efforts of the promoters of psychology without soul—namely, the transition, first from the inorganic to the living, and then from life to consciousness.[1]

Thus neither the theory of association nor the German psychology avails to get rid of the *à priori* element which lies at the basis of the ego. Shall we be more successful if we revert to pure materialism, which does not deem it necessary to explain the ego by any of the subtle combinations which we have passed in review? It will not detain us long, for its refutation results from the considerations already advanced. In fact, we have seen the theory of association of ideas fluctuating more and more between idealism and the gross solutions of materialism. The objections which we have advanced against it in both these aspects, bear directly upon materialism itself and greatly facilitate our task.

When we come presently to discuss the anthropological question, we shall show by the comparative study of our moral and intellectual faculties, and of the physiological part of our being, how absolutely distinct they are even in their

[1] Introduction, p. xiii. Von Hartmann's theory on the formation of the conscious in the unconscious, ought logically to find its place here; but as it is impossible to understand it at all, except in connexion with his system, we reserve it for our subsequent discussion of the bases of the Philosophy of the Unconscious.

correlation. We shall then investigate the problems of the relation of brain and mind, and of reflex movement.

We shall content ourselves for the moment with setting against the materialistic theories the conclusions of the new English psychology. We see that it tends to a notion of bodies as mere possibilities of sensation, matter being nothing more than a freak of mind, an intellectual combination. We have seen that M. Taine ends by plunging the world,—which he regards as simply a vortex of phantoms,—into a black abyss of emptiness; and there he must needs join hands with phenomenalism. Without admitting this extravagant idealism—the ultimatum of the schools which, in our day, are endeavouring to trace everything to mere sensation—we must admit that that which is least certain of anything to us is matter, since we can never arrive at it directly. We only come in contact with it through the medium of our cognitive faculties, which do not merely reproduce but also modify things. Sensation is not simply the impress of external phenomena; it exercises a power of transformation. We all know that neither colours nor sounds come to us directly from without. Red and white have no existence independent of the concentrating focus of our organism. And this is true of all material phenomena. "The affirmation of an extended body which has no existence independently of me, is only an hypothesis to which I am led by the necessity of explaining to myself my sensations, that is to say, the modifications of my own consciousness."[1] We can but admire the imperturbable assurance with which our materialists pretend to have found an unassailable ground of certainty, an irreducible objectivity, while they are still in the bonds of pure subjectivity. Matter being the least direct of all our cognitions, our sensations present it to us only through the medium of coloured glasses. It follows that materialism itself drives us in on ourselves; it does not come in direct contact with things. The explanation of things

[1] Charles Secrétan. "Discours Laïques," p. 126.

which it gives us is an hypothesis to which the mind is led by that principle of causation which the philosophers of sensation ought to renounce, since it involves them in an inextricable difficulty. To endeavour to explain sensation, even by the most exclusive materialism, is to abandon its own fundamental principle; for any explanation implies the idea of a cause, which idea can only come from mind.

A vigorous thinker has traced out in a remarkable book the evolution of materialism which leads it to lose itself in subjectivism. Lange has written its history[1] with as much clearness of style as correctness of information. He has not merely been satisfied with explaining philosophical systems. He has also given us a great picture of the movement of contemporary science, and of the immense progress achieved in the study of nature. Lange seems at first sight to be an ardent apologist of the materialistic philosophy. He does not hesitate to extol it as having been the only system to favour the movement of science; though, while condemning the metaphysics of Plato and Aristotle, he acknowledges, as we have seen, that these grand dreamers gave a mighty impulse to the mind of man in its pursuit of truth. If these illustrious teachers sent the bark of thought into a wrong channel, as Lange believes, they yet did what no mere method could have done, they filled its sails with a favouring wind. Lange maintains, nevertheless, that it was materialism which was the basis of the true science of nature in the ancient world. It has owed its largest advance since the Renaissance to Giordano Bruno, Bacon, Gassendi, and in our days to their lawful heirs. But it must be understood that it is not materialism as a philosophical explanation of things which he extols; in this aspect it appears to him exclusive and false, like all the great philosophical systems. That which he lauds and admires in it, is the fact that it concentrated itself upon the study of reality; that it sought to find their laws in the facts themselves, and re-

[1] "History of Materialism," Lange.

pudiated all the philosophic entities which would break the close tissue of natural facts, and introduce into it hypotheses wholly unscientific.

Materialism has then, according to M. Lange, done eminent service, not only by its attempt to form a general theory or cosmology, but by the elimination of metaphysical entities, which, going beyond nature, divert our attention from it, and introduce the chimerical into the study of facts. But matter itself is in its essence emphatically *the inexplicable.* Materialism has never arrived at the reality itself, but only at that relative reality which we reach through our media of knowledge, which always bear the impress of subjectivity. Lange entirely sanctions this declaration of Du Bois-Reymond. "As the most powerful and complicated muscular effort of a man or animal is not essentially more obscure than the simple contraction of a single muscular fibre, as a single secreting cell involves the whole problem of secretion, so too the activity of the soul, most exalted above material conditions, is not in the main point more incomprehensible than consciousness in its first stage of sensation. With the first emotion of pleasure or pain that the simplest creature experienced in the beginning of animal life upon the earth, this impassable gulf is established, and the world has become henceforth doubly incomprehensible. . . . The anatomical knowledge of the brain, the highest knowledge we can attain, reveals to us nothing but matter in motion. But if we suppose that from this knowledge certain intellectual processes or dispositions, as memory, the association of ideas, and so on, might become intelligible, that too is delusion; we only learn certain conditions of intellectual life, but do not learn how the intellectual itself is developed from these conditions. What conceivable connection exists between certain movements of certain atoms in my brain on the one hand, and on the other the, to me, original and not further definable but undeniable facts: 'I feel pain, feel pleasure, I taste something sweet, smell roses, hear organ tones, see

something red,' and the just as immediately resulting certainty, 'therefore I am'? It is impossible to see how from the co-operation of the atoms consciousness can result. Even if I were to attribute consciousness to the atoms, that would neither explain consciousness in general, nor would that in any way help us to understand the unitary consciousness of the individual."[1] In the conclusion of his chapter on "Force and Matter," after reviewing the atomic theory, Lange says: "In the present state of the natural sciences, matter is everywhere the unknown, force the known, element. If instead of force we rather talk of a 'property of matter,' we must beware of a 'logical circle.' A 'thing' is known to us by its properties; a subject is determined by its predicates. But the 'thing' is, in fact, only the resting-place demanded by our thought. We know nothing but properties and their concurrence in an unknown something, the assumption of which is a *figment of our mind*, though, as it seems, an assumption made necessary and imperative by our organisation."[2]

It is idle to imagine that anything is gained to the cause of materialism by appealing to the reflex movements in which we find the body accomplishing, without the aid of thought, operations hitherto attributed to the conscious action of the mind; this would be to forget that the body itself is only one of our representations. In short, as a medium of knowledge, materialism occupies decidedly the lowest rank. No system would lead more rapidly to what is called in England pure agnosticism, which is nothing else than absolute scepticism. The human mind has never been able to adhere to it; it is of the very essence of scepticism not to be able to state its position without impugning it, for it has not the right to recognise even doubt. To affirm a doubt, is to affirm. On the other hand, total negation is impossible; for in order to deny, we must suppose a foregoing affirmation. Absolute negation once

[1] "History of Materialism," Lange, vol. ii., pp. 310, 311.
[2] *Ibid*, pp. 389, 390.

reached, mind expires and science is extinct. To attempt to prove scepticism, is moreover to take reason for granted, or to consent to prove nothing. Again, all argument has a purpose in view, it aims to convince; it carries with it, practically at least, the idea of an end. To take away this, is to abandon the attempt to establish anything whatever. In order to prove that there is no such thing as finality, we imply its existence.[1] Lastly, if materialism is right, what is the use of demonstrating and arguing? Our system is the result of a fatality; it depends on the state of our brain: *stat mole sua.* Thus materialism, which has so often crowned itself king of science, renders science impossible. So far from being its last utterance, it can scarcely lisp its first syllable.

Scepticism is the natural consequence and the just mead of the materialism which recognises no life but that of sensation, necessarily fluctuating and evanescent in its character, and which is not only incapable of discerning between the true and the false, but even of admitting the distinction. This scepticism has found no more decisive refutation than that offered to it by the two great philosophers of Greece. The reasoning of Plato in the "Theætetus" is conclusive. We know that Protagoras, who also believed only in sensible observation, concluded that man is the measure of all things, and that as he is carried along in the perpetual flux of sensation, this measure has no more fixity than he himself. The theories of Protagoras have been taken up again in our day, and have found an able apologist in the illustrious historian Grote. We turn to the immortal pages of the great Greek philosopher, in which, with keen dialectics, he gives to the thesis of sceptical sensationism the *reductio ad absurdum.* Plato shows that in this conflict of affirmations and negations, all equally plausible, man cannot even affirm whether he is cold or hot, that sensation itself is impossible, for it can never find the second of time

[1] Charles Secrétan. "Discours Laïques," p. 9.

necessary to fix the object, which ever eludes his grasp in the vortex that hurries him on. Knowledge of the past is impossible, for to sensation the past is nothing. Science has no advantage over ignorance, discussion is an idle game, for it can never lead to anything.

In opposition to all sceptical doctrines, more or less materialistic, Aristotle formulates with inimitable force the fundamental axiom of dialectics, the principle of contrariety, which is absolutely opposed to the idea that a thing can be and can not be at the same time, and that contraries may be equally true. "Since it is impossible that contradiction should be true of the same subject at the same time, it is evident that neither can contraries possibly subsist at the same time in the same subject. For indeed of contraries one or other is not the less privation. But privation of substance is negation from some definite genus. If, therefore, it is impossible at the same time to affirm and deny with truth, it is impossible that also contraries should be inherent in the same subject at the same time; but either both must be inherent partially, or the one partially and the other simply or absolutely."[1]

This discussion leads us then, in conclusion, to some very important and, as we hold, incontestable results. We are justified in affirming that knowledge, even in its lowest form, cannot dispense with an element of *à priori*, under pain of losing itself in the void and in nothingness. The inductive method of Positivism constrains us, as we have seen, to rise above mere sensation, which does not allow us to predicate and to formulate for the future the permanent relation of antecedents and consequents, since this implies subjective activity. The school which holds the theory of association can never succeed in dissolving away the idea of causation into the simple relation of antecedent and consequent, for this would deprive

[1] "The Metaphysics of Aristotle," Bohn's Edition, Book III., chap. vi. p. 106.

the idea of its essential fruitfulness. Again, it has not been able to reduce the ego to a mere link in the series of phenomena, for it is a link which distinguishes itself from the rest, and is conscious of itself. The very power of associating ideas and forming syntheses, pre-supposes an internal activity, which cannot be itself a mere association; for in order to produce it an associative faculty is needed, and we should only have put the difficulty a step further back. In the same way neither time nor space can be deduced from experience, for before we can find them we must put them there, since mere succession or co-existence do not exhaust the idea of time and space. We have shown then that neither the idea of causation nor the ideas of time, of space, and of substance, flow from even our combined sensations; for these ingenious combinations imply an anterior activity. The merely materialistic explanation has been baffled by the impossibility of reducing thought to mere molecular motion. It has found its *reductio ad absurdum* in the scepticism to which it necessarily brings us by destroying even the most general conditions of science. We conclude then that without leaving the lines laid down by the empirical school, we find ourselves carried above and beyond it. We are constrained to admit an element of *à priori* in knowledge, an element that we cannot find except in the subject who knows. It remains for us now to determine this element with exactness, and to see in what mode and measure it leads us to the object, to natural phenomena.[1]

[1] See M. Francisque Bouillier's work, "*Sur la Vraie Conscience*" (Paris, Hachette, 1882), for an able treatment of all that relates to the conscious ego. The author displays great acuteness of psychological analysis. After showing that thought cannot be reduced to cerebral motion, he shows in the consciousness a faculty at once innate and sovereign, which has no separate domain, but is inseparable from all the intellectual or moral manifestations of the life of the ego. Thought, feeling, will, deprived of consciousness, have no true existence. Reflection on the fact of consciousness is progressive; but the fact of consciousness itself is inherent in the psychi-

Before passing on to this important study, we may be permitted to take advantage of the undeniable fact that the empirical school itself, in its most eminent representatives, has contrived to make an opening in this thick wall of materialistic phenomenalism, behind which it would keep us aloof from what it calls metaphysical divagations. We have already referred to its famous but untenable theory of the unknowable, formulated with so much precision, and as completely forgotten in a system which logically admits nothing beyond our sensations and their combinations. With Stuart Mill, towards the close of his life, it is quite different. There is an ever-growing aspiration after that region of the Divine from which he had been so long exiled during the whole course of that arid education, the desiccating effects of which his autobiography describes so forcibly.[1] A deep passionate affection for a woman with a head as large as her heart, satisfied to a degree the craving for an infinite love which had tortured him. He carried into this affection the exalted fervour of religious feeling. But he did not rest here, as we see from the last of his "Essays on Religion," written shortly before his death. No one will accuse Stuart Mill of having written one of those retractations *in extremis* which abruptly break off the whole thread of previous thought. We find the man himself in this remarkable paper, with all his keen subtle logic, so quick in disintegrating ideas, in weighing arguments, in showing the inanity of those which are based upon prejudice alone, even though it were the most respectable. Stuart Mill is as severe as Kant upon the ordinary proofs of the existence of God. He even commits the error of rejecting that which is based

cal life from its commencement. Consciousness is indivisible, and must rule all the manifestations of our feelings, our thoughts, our will; or mind ceases to be. Consciousness cannot be explained by succession, which it alone explains. M. Bouillier concludes by showing how chimerical is the attempt to form a psychology without assuming the soul.

[1] "Autobiography." Stuart Mill.

upon moral obligation. He entirely repudiates all that approaches the supernatural; and, although he allows the theoretic possibility of miracles, he takes up Hume's bitter polemics against the external evidence. His conclusions are strange. He regards it as probable that the First Cause has but a limited power, and that it had to contend in the beginning, like the demiurge of the Gnostics, against matter eternal and resistant.

It is clear we have to do here with a genuine freethinker who bows to no authority. It is all the more remarkable to find him accepting for the first time, with the principle of finality, a sort of creative power, limited by rival powers, the influence of which would alone explain the great anomalies of nature. Stuart Mill does not admit the ordinary proofs of the immortality of the soul; he believes nevertheless in its possibility. Let us quote his own words: "All things in nature perish; the most beautiful and perfect being, as philosophers and poets alike complain, the most perishable. . . . Why should it be otherwise with man? Why, indeed? But why also should it *not* be otherwise? Feeling and thought are not merely different from what we call inanimate matter, but are at the opposite pole of existence, and analogical inference has little or no validity from the one to the other. . . . All matter, apart from the feelings of sentient beings, has but a hypothetical and unsubstantial existence; it is a mere assumption to account for our sensations. . . . Mind, or whatever name we give to what is implied in consciousness of a continued series of feelings, is, in a philosophical point of view, the only reality of which we have any evidence, and no analogy can be recognised or comparison made between it and other realities, because there are no other known realities to compare it with."[1]

[1] "Three Essays on Religion." J. Stuart Mill. "Immortality," pp. 202, 203.

This does not indeed suffice to prove the immortality of the soul; but the hope is at least permitted; and the future life, if it becomes our heritage, will preserve to us the most precious privilege of the present life, that of perfecting ourselves by our own efforts. As to religion itself, without being able to establish it by irrefutable proofs, it also may become the object of our hopes. It is far from being without value. It makes life and human nature objects of higher worth for the heart; it lends more force, as well as greater solemnity, to all the feelings which are awakened in us by our fellows; it softens the impression produced by that irony of nature which becomes so painful when we see a whole life of effort and sacrifice building and shaping a wise and noble soul which is straightway doomed to vanish away. "It cannot be questioned," says Stuart Mill, "that the undoubting belief of the real existence of a Being who realises our own best ideas of perfection, and of our being in the hands of that Being as the ruler of the universe, gives an increase of force to these feelings beyond what they can receive from reference to a mere ideal conception. . . . The most valuable part of the effect of Christianity on the character, has been produced by holding up in a Divine Person a standard of excellence and a model for imitation. . . . And whatever else may be taken away from us by rational criticism, Christ is still left, a unique figure not more unlike all His precursors than all His followers, even those who had the direct benefit of His personal teaching. . . . Nor would it be easy, even for an unbeliever, to find a better translation of the rule of virtue from the abstract into the concrete, than to endeavour so to live that Christ would approve his life. . . . Impressions such as these seem to me excellently fitted to aid and fortify that real though purely human religion which sometimes calls itself the religion of humanity and sometimes that of duty. . . . In the battle which is constantly going on between the powers of good and those of evil, the humblest human creature is not incapable of

taking some part; and even the smallest help to the right side has its value in promoting the very slow and often almost insensible progress by which good is gradually gaining ground from evil, yet gaining it so visibly at considerable intervals, as to promise the very distant though not uncertain final victory of good."[1] We do not disguise from ourselves the insufficiency of a religion thus reduced to the state of pure hypothesis, of which there is no scientific indication, and which is finally left out of the system. But such an inconsistency on the part of so great a dialectician shows the power of the grandest of human facts, which only frivolity or prejudice can set aside in the explanation of things. The author of the "History of Materialism" assigns to it a yet larger place in the conclusion of a book which purports to eliminate all metaphysical entities. After extolling the benefits conferred by Materialism, in a scientific point of view, by its exclusive devotion to facts,—that is to say, to the sum of the phenomena perceived by the senses,—without falling into the illusion of a reality independent of ourselves, Lange pronounces the severest judgment upon its morality. He denounces utterly the cold egoism which lowers and debases the soul. "Materialism, useful as a counterpoise to the metaphysical fetishes which would intrude into the essence of the real, remains an utter stranger to the highest functions of the human spirit." "For the universe, as mere natural science enables us to comprehend it," says Lange, "we can as little feel enthusiasm as for an Iliad spelt out letter by letter. But if we embrace the whole as a unity, then in the act of synthesis we bring our own nature into the object; just as we shape the landscape that we gaze at into harmony, however much disharmony in particular may be concealed by it. All comprehension follows æsthetic principles, and every step towards the universal is a step toward the ideal."[2] This ideal, perceived by poetry, is the

[1] "Three Essays on Religion," J. Stuart Mill, pp. 255, 256.
[2] "History of Materialism," vol. iii., p. 341.

real good conferred by religion which has enwrapped it in its mythology. Rationalism loses itself in the sands of platitude without getting rid of its untenable dogmas. Poetry, through the myths of religion, lifts us to the ideal; it carries us beyond the real. Religion, thus considered, deserves the love of the most scientific minds. "The victory over disintegrating egoism and deadly chillness of the heart, will only be won by a great ideal, which shall appear amidst the wondering peoples as a 'stranger from another world,' and by demanding the impossible shall burst the prison-doors of reality. . . Whether the battle remains a bloodless conflict of minds, or whether, like an earthquake, it throws down the ruins of a past epoch with thunder into the dust, and buries millions beneath the wreck, certain it is that the new epoch will not conquer unless it be under the banner of a great idea which sweeps away egoism and sets human perfection in human fellowship, as a new aim in the place of the restless toil which looks only to personal gain."[1]

The vague character of this purely æsthetic idealism is obvious at once, but it is none the less of the highest interest. After all, this ardent aspiration after the good, after love, is a fact inherent in man. As it cannot be reduced to a merely mechanical state, as it is neither a fluid nor a movement, it is something *sui generis* which does not belong to simply phenomenal representations, the result of the impressions of the senses. Here is an element apart. We find in the depths of the human soul the place that belongs of right to this sublime stranger whom Lange invokes to win the victory for the ideal. We are thus entitled to say, that whenever he appears again among us, he is coming unto his own. Whether he has yet appeared or no, there is in humanity an aspiration that yearns for him and is not produced by outward things. We are brought face to face with the *à priori*, not in the realm of

[1] "History of Materialism," vol. iii., pp. 355, 361.

the intellect alone, but of religion also. Only its basis, as given by Lange, is far too shifting. We must have something more substantial than this splendid nimbus of imagination and sentiment. We must have the rock that cannot be shaken, the categorical imperative, if we are to attain certainty.

CHAPTER III.

THE PROBLEM OF KNOWLEDGE AND THE CRITICAL SCHOOL IN GERMANY AND FRANCE.—HARMONY OF CARTESIANISM AND KANTISM SUGGESTED BY MAINE DE BIRAN.

We have arrived at the conclusion that an adequate knowledge, even of sensible phenomena, cannot be derived from sensation alone; since this allows no scope for induction, that is for evolving the law of the future from the confused and transitory elements of the present; neither can it supply the necessary link of causation between the antecedent and the consequent, nor establish the identity of the ego, from which the idea of substance is derived. In short, sensation would simply carry man along in its rapid current, without retrospect and without prevision, if he were not able to control it by his own proper energy. The notion of time and space implies a boundlessness of duration and extension, which must ever elude the grasp of the senses. There exists then outside the object something which is called the subject or the ego, which is distinct from the sensations, and perceives and combines them by its proper activity. This subject, which is not a mere product of the sensations and their combination, has in itself an element of *à priori*, by means of which knowledge is rendered possible to it. This is an element, however, which, as we shall see, requires for its development, to be brought into contact with internal and external phenomena, but which has nevertheless a virtual existence prior to them. Its constituent elements are those very ideas of substance, of extension and of time, which sensation

can neither explain nor produce. We want now to know how this element of *à priori* is brought into contact with the object of knowledge, by which we mean all that is not simply the subject or ego, both that which is inferior to it and that which is above it, both the external world and the mysterious domain of the Divine, supposing that both exist, and that they are not the illusion of the ego, seeing its own double in some sort, as is asserted by extreme Idealism, which maintains that the mind can no more go out of itself than a body can leave its shadow.

We here, at the outset, come in contact with the great critical school inaugurated by Kant, and carried to its extreme issues in the system elaborated with so much power by M. Renouvier. This school has given most emphatic recognition to the element of *à priori*, which it has boldly placed above and beyond the world of phenomena. This phenomenal world it has more and more sacrificed to the *à priori*, for, as it is never apprehended directly, but is constantly transformed by receiving the impress of our mind, we cannot arrive at the reality underlying it. Kant himself admitted that this substantive reality did exist, though it was constantly eluding our reason or being modified by it as by a prism. M. Renouvier refuses altogether to allow its existence. In his system there remains nothing but a collection of laws which we call mind, laws which have nothing to govern, unless it be our conceptions, which are always relative. We know indeed that the critical school admits another order of realities—moral realities—with which it primarily occupies itself, and that it surrenders itself to the highest inspirations; but it seems to us nevertheless to have been carried away by the force of a reactionary movement. It was fully justified in protesting against the exclusiveness of Descartes, who undoubtedly made the intellectual predominate over the moral point of view with his disciples; but its conclusions nevertheless appear to us extravagant. It is possible, in our opinion, to lose nothing of that important aspect of

truth brought into prominence by the critical school, and yet not to sacrifice that which is external, both beneath and above us. The critical school itself furnishes the materials for the bridge which is to connect the subject and the object—the ego and the world. Our aim must be to bring into harmony the two greatest philosophical geniuses of modern times—Descartes and Kant.

I. Descartes and Kant.

Let us take a rapid glance at the movement of thought in our own day which has led from the one to the other, and which should now supplement the one by the other. We shall not forget that our present purpose is not to write a chapter of the history of philosophy. We refer for the full treatment of the subject to the great historians who have traced its evolution and especially to the originals themselves. We shall only touch on it so far as is necessary for the elucidation of the problem of knowledge, as it has presented itself to us.

The more we read the "Discourse on Method," and the "Meditations," the more are we convinced that Descartes discerned from the outset the true solution. He too admits as a consequence of contemporary speculation, that the knowledge of bodies does not of itself bring with it any certainty, and that this knowledge is in fact the most difficult of all to attain, since we cannot get at them directly. He says: "It does certainly seem strange that things which I have recognised to be doubtful, unknown, foreign to myself, should be more distinctly comprehended by myself, than that which is true, which is known, which is my very self indeed. . . . And now, since I know that even things corporeal are not, properly speaking, perceived by the senses, nor by the faculty of imagination, but by the intelligence alone, nor are perceived in that they are touched or seen, but only in that they are mentally apprehended, I undoubtedly know that nothing can be more easily or more

evidently perceived by me than my own mind."[1] We are thus referred back to the mind as the first source of knowledge. Setting aside all preconceived ideas, in order to admit only what is in strict conformity with truth, Descartes makes his very doubt the starting-point to arrive at the first truth, and by this means he obtains the criterion which will thenceforth serve to guide him. To doubt is to think, for doubt is an exercise of thought. But to think is to be. I think, and therefore I am. This first result is beyond discussion, it has all the characters of evidence; it forces itself upon us as an indisputable reality. It is a simple, immediate perception, bearing upon the thing itself, prior to any explanation or abstraction. This perception is distinguished from the *notion*, which implies reflection upon the nature of a thing. "Here," as says M. Ollé Laprune, "the knowledge of the thing perceived is wrought as it were by the thing itself."[2] This is just what is implied in Descartes' evidence, "I think, therefore I am." In thinking I feel myself to be. It follows that at the basis of knowledge is the intuition of being.

The famous deduction by which Descartes establishes that the soul is essentially *thought*, in opposition to matter, is well known. Thinking, he would say, is an attribute that pertains to me: it is the only thing that cannot be detached from the ego. "I am, I exist, is certain; for how long though? Certainly for so long as I think. . . . I am then, strictly speaking, only a thing[3] that thinks." Evidence is always, with Descartes, the criterion of the true. It precedes reasoning, which without it moves in a vacuum. Concentrating his observation on the thinking ego, Descartes discovers in it, experimentally, the general laws of knowledge, to which all phenomena are subject: "Of those matters which, in the ideas of corporeal things, are clear and distinct, there are

[1] "Méditations," Descartes, pp. 147, 151.
[2] Ollé Laprune, "De la Certitude Morale," p. 24.
[3] "Méditations," Descartes, p. 144.

some which seemingly I might have borrowed from the idea of myself; namely, substance, duration, number, and any others of that kind; for when I think that a stone is a substance or fitted to exist by itself, and also that I am a substance, . . . although there is the greatest difference between the two conceptions, yet in respect of substance they appear to coincide; and in like manner since I perceive myself to exist now, and also remember that I existed some time ago, and since I have various thoughts, the number of which I understand, I thus acquire the ideas of duration and number, which I can afterwards apply to any other things."[1]

It is also from the ego that Descartes derives experimentally the principle of causation, of which he makes such grand use in his theodicy, for he traces its operation in that free activity to which he assigns so large a place. "The will alone, or liberty of choosing, I find to be so great in myself that I can form no idea of a greater; so that it is pre-eminently on account of this that I apprehend myself to present, as it were, the image and likeness of God."[2] Thus Descartes has discovered experimentally in the ego, the great laws of knowledge. Taking his stand upon this very psychological experience, he is led to seek, out of and above himself, the object of knowledge. He says: "In truth it is manifest by the light of nature that there ought to be at least as much in the total and efficient cause as in the effect of that cause; for whence, pray, can we assume the reality of the effect, unless from the cause, and how could the cause give reality unless it had it? Hence it follows that nothing can be produced by nothing, nor yet that which is more perfect, *i.e.* which contains in itself more of reality, from that which is less perfect. And this is evidently true, not only of those effects, the reality of which is actual or formal, but also of ideas, in which regard is had only to the objective reality. . . . And although

[1] "Méditations," Descartes, p. 161.
[2] *Ibid.*, p. 173.

perhaps one idea can be born of another, yet here there is not given an infinite progress; but there must be an arrival at some first idea, the cause of which is like an archetype wherein is formally contained all the reality which is in the idea only subjectively; so that by the light of nature it is manifest to me that the ideas in me are as it were images, which may well fall short of the perfection of the things from which they are taken, but cannot contain anything greater or more perfect. All this, the longer and more carefully I examine it, so much the more clearly and distinctly do I recognise to be true; but what at last do I conclude from this? Why, that if the objective reality of any one of my ideas is so great that I am certain that neither in form nor in degree is it in me, and accordingly that I cannot myself be the cause of this idea, it hence necessarily follows that I am not alone in the world, but there exists likewise some other thing which is the cause of this idea." [1]

The very doubts and aspirations in the mind of man are the evidence that he has the idea of infinite perfection. Descartes says: "I clearly understand that there is more of reality in infinite substance than in finite, and consequently that in some way the perception of the infinite was in me earlier than that of the finite, that is, of God, than of myself; for on what principle shall I understand that I doubt, that I desire, that is, that something is wanting to me, and that I am not altogether perfect, if there were in me no idea of a more perfect being, by comparison with which I recognise my own defects?" [2]

It only requires, then, that we apply the principle of causation to the ego, and we find ourselves at once lifted above it to its principle, for the ego has the idea of perfection without being itself perfect. This idea is not then of its own production; its cause must be higher than the ego, and can be nothing but God Himself, a real God, since reality is the crown of

[1] "Méditations," Descartes, pp. 157–159. [2] *Ibid.*, p. 162.

perfection, which would not be all conceivable perfection if it had not a real existence. Descartes has summed up his whole thought in this sublime utterance, which has been enlarged upon with incomparable eloquence by Bossuet and Fénélon: "While I am turning the fixed view of my mind upon myself, I not only discern that I am a thing incomplete and dependent on another, and a thing that aspires to the greater and greater or the indefinitely better, but I also discern Him on whom I depend, to have in Himself all those greater things, not indefinitely and potentially alone, but actually and infinitely, and so to be God."[1]

Descartes takes his stand upon the Divine veracity to establish the reality of corporeal existence, which in itself appears to him the most uncertain of all things. Nothing can shake this argument when once it has been proved that the ego is not the simple product of sensation, and that its grand intuitions are not the artificial result of the association of ideas or rather of images. How is it, then, that Cartesianism has not sufficed for the mind of man, and that it has seemed, for a time, to be left behind by new evolutions of philosophic thought? This is evidently due to its deficiencies. It was not the gravest of its mistakes that it established a positive and untenable dualism between thought and matter, which it reduced to a mere attribute of extension. The development of materialism in the succeeding century was the reaction against this exclusive notion; but it failed to correct it because it went itself exactly to the opposite extreme. The critical school did more to shake it, because, without doing injustice to its elements of truth, it directed its attack against its most vulnerable point. This vulnerable point is perhaps best described as its *intellectualism*. It must be admitted that in the Cartesian system the moral aspect of things was made merely secondary. Nothing could be more unjust than to accuse Descartes himself of having

[1] "Méditations," Descartes, p. 168.

ignored it; we have already seen how he exalted the liberty of the will as the distinctive feature in which man bears the likeness of God; but it is one thing to acknowledge a truth, and another to give it its proper place. Now, it is undeniable that Descartes placed intelligence above freedom of will, as is shown by his very fundamental axiom, *I think, therefore I am.* God is presented in his system far more as the infinite absolute Being, than as the God of the moral law, of liberty, and of supreme holiness. He is to be apprehended rather by the intellect than by the conscience. The limited is with Descartes emphatically the imperfect; the illimitable is perfection. We can well understand how Spinoza, the inflexible logician, confining himself to the arena of pure dialectics, should have likened perfection to that infinite substance which knows no bounds, to which any determination would be a limit and consequently an imperfection. In this way pantheism has grown out of Cartesianism, by straining its principle. It cannot be denied that Malebranche, Christian as he is in tendency, leaned to this side, sacrificing human liberty to the Divine absolute, which, according to his conception, could admit of no limitation and consequently of no created will. Leibnitz seems indeed to recognise individuality in his *monad;* but he does not really restore the conditions of the moral world, for man's liberty of choice is swallowed up in the optimism which makes evil the necessary shadow of good and a part of the harmonious whole. This optimism is still further exaggerated by his followers.

If the Absolute allows of no limit to itself, we can no longer speak of the liberty of the created being. Now, no limitation of the Absolute is conceivable, so long as we adhere to the notion that abstract perfection consists primarily in a sort of extensive and not intensive infinity. This is why the conscience necessarily rebels against the Cartesian intellectualism. As early as the middle of the seventeenth century, it raised a passionate protest against it through the voice of Pascal, who,

forgetting Jansenist predestination, vindicated with his incisive eloquence the inalienable rights of the moral intuition. Rousseau pleaded the same cause with all his oratorical fervour. It must be allowed that he greatly contributed to the reaction of the critical school. Kant felt the warmth which Rousseau had breathed into the atmosphere of his age. We find indeed little trace of it in his cold philosophy; but its influence is there nevertheless. The lava from the volcano has congealed into the solid blocks of one of the most powerful constructions of the human mind. Kant was no less king of his age than Descartes of his. What we want for our own age is to reconcile and to balance the claims of these two royal minds.

We may give a brief outline of the fundamental principles of Kant's system which will suffice for our purpose. The empirical school, as we have seen, derives the laws of the human mind entirely from the objective, from the world of sensation. Kant, on the contrary, makes the object wholly subordinate to the subject; according to him, we only see things through the medium of our mind, and consequently we project ourselves into the things seen. It is not the things themselves that we perceive, but the things transformed and modified by our mind; which is equivalent to saying that we never arrive at the reality itself. Kant does not go so far as to deny the existence of things; for the irresistible instinct of our reason implies their existence. There is the thing in itself, the "*Ding an sich*," which Kant calls the *noumenon*. It is as certain that the *noumenon* exists as it is that we do not come in contact with it; because between us and it, is our mind. This always compels us to place things in time and space. Now time and space are mere notions, which we derive from ourselves and which are antecedent to all sensations. They are the pre-existing moulds, into which we cast things by an inward necessity, but this suffices to impart to them a wholly subjective character, and to prevent our apprehending the thing itself. The thing

in itself is not subject to the laws of time and space, since these are laws of our own mind in its regards to sensation; they are the laws of our sensibility. If from sensation we rise to the understanding, we recognise, here also, *à priori* laws not supplied by experience, for they control our experiences and consequently modify them by transforming them into ideas and sensible representations. The smallest judgment which we pronounce, supposes a subject to which we add an attribute, and so implies the idea of substance. We cannot think without the idea of cause, an idea which the series of phenomena alone is incapable of producing. We must observe that Kant never asserts that these great categories of substance and cause are, like time and space, purely subjective. He recognises, as M. Charles Secrétan has said, "the essential relation between intelligence and truth; only in the domain of pure knowledge, this truth, this reality, is not apprehended in itself, because the senses and the imagination always mingle with our thought. We cannot think of being and of cause but as events in time, and constant succession becomes to us the symbol and equivalent of causation. The element of time mingles with all our thoughts: it clouds their transparency and prevents our arriving at an understanding of the truth."[1] It is this which leads Kant, with all the daring of a pure logician, to set aside, in the domain of pure knowledge, all the Cartesian proofs of the spirituality and immortality of the soul, and of the existence of God, whether cosmological or ontological.[2] The subjective element of sensibility prevents us as effectually from apprehending the true ego as from apprehending the external world. For we only perceive the ego subject to the laws of time and space; it is therefore already an ego transformed. The world does not enable us to arrive at any conclusion about its Author, because, in order to do this, we must know things as they

[1] "La Philosophie de Victor Cousin." Charles Secrétan.

[2] See M. Philippe Bridel's excellent treatise, "La Philosophie Religieuse de Kant."

are; but the world of phenomena is the product of our own faculties. In short, all that rational psychology professes to demonstrate with reference to the soul, its substantiality, its unity, its immortality, is a tissue of paralogisms. We confound the mere empty form of thought with our personality as thinking beings. Rational theology falls into the same error, for it transfers to the thing in itself the subjectivity inherent in the thing as it appears, that is as we have made it. It is our ever-recurring error to identify the *noumenon* with the *phenomenon*, the thing in itself with the thing as it appears.

Kant himself reveals the motive and inspiration of this truly Titanic effort to reduce the world to a simple phenomenon, when he shows that it is vain to attempt to evolve the freedom of the will from the succession of phenomena; for in a world subject to the laws of succession, the chain of cause and effect is never broken, and if we hold to this, we must allow Spinoza to be right. Yet without free-will the moral life is but a treacherous illusion. Now we can give up everything except the moral life. For that life is certain with a certainty not merely direct but obligatory. There is within us a categorical imperative which admits of no doubt; the first duty is to believe in duty. Duty is not open to discussion, because it is duty; it is itself the supreme law. Upon this the practical reason insists. It takes little account of the negations of the pure reason; or rather it makes much of them, for they have set it free from that law of fatality which presses upon the phenomenal world, subject as it is to the inevitable laws of succession. We must be on our guard against introducing into this domain of practical reason, processes of knowledge which have been found futile in the domain of pure reason. If we were to take the same standpoint here, and attempt to prove duty and conscience, the proof would be as illusory in this new application of it, as in the attempt to demonstrate the soul and God by psychological and ontological reasoning. The moral being would vanish, like the thinking being, before the distinction ever subsisting between

the thing in itself and the thing as it appears to us through the subjective medium of our knowledge. Let us not attempt then to prove the categorical imperative or the consciousness of which it is the substance. We are here in a region above knowledge, in presence of a postulate which forces itself upon us, not by any evidence whatsoever, but because it is obligatory, because it is duty; and if we were to throw doubt upon it, the moral life would perish. This postulate restores to us that faith in an immortal soul and in a just God, which alone gives the necessary sanction to the moral law. Without it there is no basis for either the soul or God. The categorical imperative is their only guarantee, but it is unassailable since it is above all knowledge.

We could not give a better summary of the dominant thought in Kant's system, than is given in the admirable commentary upon it by M. Charles Secrétan. He says: "The moral order shines by its own light, and cannot be called in question; it is the highest interest of thought to keep it unimpaired. We find here the explanation of those sceptical objections, the motive of those subtle, apparently arbitrary, distinctions, which have made us hesitate. The science of nature must proceed upon the supposition of the universality of natural laws; that is to say, of universal necessity. The very conception of moral order is based upon liberty. The two principles are irreconcilable; collision is imminent. How is it to be prevented? By placing the two contrary principles on two different levels, and assigning to each its own world. The science of nature is thought turned to the things of time and space. Let us reduce time and space to the rank of appearances; the theory of these appearances will be precisely the same as if they were realities, and will render us the same service; and liberty will remain the law of the world of mind, that is, of the true world. There is behind our apparent nature something which is not of time, an eternal energy that is free, and makes us what we are. It is true we know

nothing of this energy ; nevertheless we affirm it, because we are obliged to admit it, in order to maintain the authority of the law of duty ; otherwise we should be irresistibly led to explain away the moral consciousness in vain phenomenology, and to regard it as an illusion of the mind. Duty is then at once the guarantee of the intelligible world and its revealer. Duty is the bond, the pivot ; the very certainty of moral obligation assures to us all the rest. If duty is more certain than all the rest, it is not by any means in virtue of any psychological necessity. Nothing in the world can prevent our suspecting that the often importunate voice of conscience is a voice which is misleading us. No, that in which consists the original and highest certainty of duty, and the true foundation of all certainty, is simply that it is duty. We may call it in question, but we ought not to do so ; that is the whole secret. The ponderous framework of the world is not planted upon a rock, it is poised in the ether ; and if I believe in liberty, my belief is free."[1]

We see how unjust are the attacks made by those who call themselves spiritualists upon this noble and lofty philosophy. The Cartesians who condemn it forget the Spinozist followers of their master, who brought out the determinist elements of the system maintained by Leibnitz himself. A powerful reaction was absolutely necessary.

On the other hand, we would remind the followers of Kant of the various schools of pantheistic idealism which have all claimed to be the successors of the great philosopher of subjectivity. Fichte refused to see anything but the ego in the world ; Schelling, in his first system, made the ego the hidden focus from which everything emanates ; finally, Hegel showed the Absolute apprehending itself in the reason, after finding its evolution in nature, so that logic becomes only a development of things ; and we must not forget that all these various forms of the pantheism of to-day have proceeded more or less from Kant. I

[1] "La Philosophie de Victor Cousin." Charles Secrétan.

know indeed that Hegel rejected from the outset the postulate of the practical reason, and that he thus falsified entirely the doctrine of Kant by depriving it of its essential element, its final cause, so to speak. But it is none the less certain that these great pantheistic idealists of Germany would not have proceeded from its schools if the subjectivism of pure reason had not had in it something false. When once an impassable gulf had been made between the subject and the object, there remained thenceforward only two ways open, either the negation of objective knowledge altogether, or an exaggeration in the opposite direction—the identification of the object with the subject, which is the real root of all forms of pantheism.

Kant himself did not remain faithful to his own principles of criticism, so difficult are they to maintain. After having placed in a sort of opposition, the practical reason which gives moral certainty and the pure reason which shuts us up in the subjective as in an inaccessible citadel, his criticism of the judgment, comprising his theory of æsthetics, seems to admit a certain harmony between the world without and that within. The sentiment of the beautiful awakened by the spectacle of things has a general or universal character. How would this universality be possible if there were not in the external world a principle analogous to thought as the basis of natural objects? Kant thus recognises that the study of nature leads us to the conception of finality, for it brings out the idea of an end or aim. Unless we suppose this feeling after an end to go on indefinitely, which would be tantamount to denying it altogether, it must arrive at a being who is his own end. Now this being is man, considered as a moral agent; he is himself the end, the aim of nature. We must bear in mind however that the fundamental axiom of Kantism is always the subjectivity of pure reason. Kant himself acknowledges this in these significant words: "The foregoing considerations are natural to our mind; but we should deceive ourselves if we attributed to them any scientific value, since the certainty that man is his

own end is not derived from science, but belongs to the moral order, and forms properly an article of faith." [1]

We are convinced that, from the postulate of the practical reason, conclusions may be drawn which point to the objectivity, the reality of the external world. The categorical imperative calls us to action; in order that this action may be possible it is necessary that the environment in which it is to take place, the very theatre of our activity, should not be a pure chimera, else the action commanded by the categorical imperative itself would be nugatory and the moral absolute would vanish away. This humanity, which I ought always to have in view in order to give to my acts the character of a general law, free from all egoistic individualism, is itself a world outside of me. The barrier between the subject and the object is thus removed. We may further urge that no moralist has taken a more serious view than Kant of the tragical reality of moral evil. He sees in it primarily that which he calls the predominance of the sensible interest over the moral law. But this sensible interest represents the action of the world of the senses. To refuse to accord any reality to this, is to make evil nothing more than an illusion, and to write falsehood on a fundamental dictum of conscience. Remorse itself attests at once the reality of evil and of the sensible world, without which evil would not be possible.[2]

We may arrive at the same result in another way. We have seen belief in God arise out of the categorical imperative. The God to whom duty raises us is a holy God. Must we not believe with Descartes in His veracity, without which He would not be the supreme good? Have we not thus a guarantee that there is a fundamental correspondence between the laws of our mind and the reality of things?

Moreover there is nothing to constrain us to confine ourselves to the doctrine of Kant. It has been remarkably ex-

[1] "Philosophie de la Liberté," Charles Secrétan, vol. i., chap. x.
[2] *Ibid.*

panded by a French philosopher of the beginning of this century, one of the most original thinkers of his day, who was in reality too far in advance of his contemporaries to be truly appreciated at the time.[1]

II. Maine de Biran.

Maine de Biran is known to us principally through his posthumous works, which were published in the first instance by M. Cousin; but the most important parts of them were subsequently republished with a valuable commentary by M. Ernest Naville. Maine de Biran seems to us to supply the link between Kant and Descartes, and to indicate the true synthesis of their doctrines. Kant, as we have seen, makes the notion of time and space a necessary and preliminary form of our sensibility, one which, by impressing itself upon our perceptions, gives to them all a subjective character and puts on them the impress of our mind. The same character of subjectivity is to be traced, according to Kant, in our notions of substance and cause, which partake of the intuitive, *à-prioristic* element of the human mind. The great merit of Maine de Biran, in his profound psychological studies, is that of having shown that there is in these intuitive notions something more than the formal laws of mind; that they have an experimental, and consequently an objective basis, in the ego itself. Inasmuch as they are matter of experience in the ego, in the exercise of its spontaneous activity, they are not reducible to a mere form. Here we set foot at once on solid ground; knowledge is no longer a simple matter of faith. It was a true flash of genius which suggested to Maine de Biran his theory of *effort*, by which he has introduced liberty into the initial act of knowledge. He has thus broken down the wall of separation between pure reason and practical reason. To think is to

[1] "Œuvres Philosophiques" de Maine de Biran. Paris, 1841 "Œuvres Complètes" de Maine de Biran. Paris, 1851.

will; therefore the being whose existence is revealed by thought is not simply a reasoning being, as he is represented in the famous Cartesian motto, "*Cogito, ergo sum*," but is primarily a free, acting being, carrying within him the principle of the moral life. There is a first period in human existence which belongs altogether to instinct, to blind sensation. The man is not as yet, he has no true existence. The mind begins to work from the moment when it distinguishes the ego from the non-ego, that is from the external object which up to that time has enveloped it, and, as it were, submerged it in the flood of confused sensations. This distinction is effected by an *effort*, which is the act of the will seeking to overcome the resistance of the body, for the body, however linked to the spirit, is yet external to it. "Effort made by the will and directly perceived, constitutes the individuality, the ego, the primary fact of the inner sense. I shall characterise this inner sense more explicitly as the sense of effort; the cause or producing force of which becomes the ego, by the very fact of the distinction which is established between the subject of this voluntary effort and the term which directly resists by its own inertia."[1]

It is not the mere action of the organic functions, which makes the ego conscious of itself. "Darkness cannot bring forth light; the activity and prevision of mind cannot be produced by the necessary operation of a mere organism without will. The circumstances and organic conditions of animal sensitivity and motility, under which the soul remains unconscious of itself, are certainly not the same as those which serve for the first manifestations of the soul as an active force, the first developments of the human ego."[2]

In its higher form, effort is called *attention*. It then directs the action of the organs to any object which it desires to know. Attention implies the exercise of the will. By raising man

[1] "Œuvres Complètes." Maine de Biran. Édition Naville, vol. i., p. 201.

[2] *Ibid.*, p. 218.

above the sphere of mere sensations, it gives to the ideas upon which it fixes itself, a vividness proportioned to its intensity. By opposing to mere inclinations the ideas thus intensified by it, it initiates the moral life. In its highest degree, when it bears upon the mind itself, it is called reflexion. The reflexion which makes our own ego the object of our attention, discovers to us, in its very operation, the origin of the great ideas which Aristotle and Kant had made the categories or the *à priori* element of the human will. The act of will, which by its own effort has constituted the ego, gives it the notion of causation, since the ego, willing and acting by effort, feels itself to be the cause of its result; and the essence of this cause is its freedom. On this point Mansel arrives at the same result as Maine de Biran, by substituting for muscular effort in the production of the idea of cause, the effort of the will producing its proper act, namely resolution. The idea of force is the corollary to that of effort. The subsistence of the ego through all its variations, gives us the idea of substance, which is derived also from the perceived resistance of the non-ego. The succession of acts of the will implies the idea of time. Lastly, the primary basis of the conception of space is found in the close and direct feeling of the body and of its parts, which arises out of the effort made to overcome its resistance.[1]

We must admit with M. Ernest Naville, that Maine de Biran has exaggerated the part taken by our subjective experience in the formation of these great fundamental ideas of the reason. They could not have been evolved from this experiment of the ego upon itself, unless they had been implicitly contained in it; for the mere succession of phenomena does not give the notion of time in the subject any more than in the object. In order to derive the idea of time from the successive willings of the ego, it is necessary that it should be inherent in the mind itself. "Sight, touch, movement, sensation, would never give

[1] "Œuvres Complètes." Maine de Biran. Introduction, p. 57.

us the notion of extension, nor our conception of bodies, unless it were inherent in us."[1] This is true of space as of substance and cause. Maine de Biran has too much forgotten this *à priori* element, so powerfully established by Aristotle and Kant. Reason alone enables the ego, which has become conscious of itself in the act of willing, to generalise from the conceptions derived from this first experience, and to conclude that they are universal and necessary because they were present in it as primary principles. We find, in fact, in the reason itself the principles of unity, substantiality, causation, and finality. It is nevertheless a valuable supplement and corrective to Kant's criticism, to have it shown that these principles are confirmed by experience, and are vitalised in the activity of the ego. They thus cease to be mere moulds and forms of thought; they become also realities. Yet more; the initial act of the will—effort—has revealed to us the existence of the body, without which it would not be conceivable, for it is the body which offers to the will the first resistance it has to overcome. The ego arrives thus at the knowledge of itself, by distinguishing itself from the non-ego, and it makes this distinction by the mere force of its own free will. Liberty is thus the basis of the intellectual as of the moral life; the dualism is overcome.

It would be difficult to overstate the services which Maine de Biran has rendered to philosophy by his theory of effort, which he himself sums up in these words: "I will, I act, therefore I am. . . . I am not vaguely a thinking thing, but definitely a *willing* thing, which passes from will to action by its own energy, as it resolves within itself or acts beyond itself."[2] Here again Maine de Biran requires to be supplemented by Kant, for he has too much neglected the properly moral aspect of free action, that which belongs to the categorical imperative. It is not enough to say, "I will,

[1] "Précis de Philosophie," Charles Secrétan, p. 122.

[2] Maine de Biran, vol. iii., p. 413.

therefore *I am;*" it should be, *I will, I ought, therefore I am.* Only in this way is the Cartesian formula sufficiently widened. It is not my being only which is thus affirmed, but the Being also on whom I depend; the Being who commands me and constrains me to say, "*I ought.*" This Being, to whom my conscience and my reason alike point, is not only an infinite substance, but infinite liberty, since He is the Absolute Good, the eternal type of the moral law.

III. French Criticism.

The brief refutation which we have given of Kant's criticism, is applicable also, we hold, to the French philosopher of our day, who has represented the Kantian school with remarkable dialectic power and a most salutary moral elevation. M. Renouvier has not contented himself with the conclusions of the "Critique of Pure Reason," he has carried them out to their furthest issues, for he does not admit even the existence of the thing in itself—that *noumenon* which is perpetually eluding us. The boldness of his negation is only equalled by the force of his moral affirmation, which has become increasingly religious in one in the last few years. But the antinomy between science and conscience is made as positive as possible. We should feel ourselves failing in respect to this great teacher, whose aim is so high and thought so vigorous, if we did not frankly own that we cannot do justice to his system in the brief discussion which is all we are able to give to it here. In his very first Essay on General and Formal Logic, he displays an admirable power of exact criticism. As things are to us only representations, and as in every representation there must be a correspondence of the subject to the object, we cannot get beyond the relative; the thing in itself is absolutely unapproachable by us, it has no essential existence; phenomena are all. Nevertheless these representations are subject to fixed laws, which, not being the result of sensible observation, constitute

an *à priori* element. In this we find the categories. There is not a thing in relation to which we do not ask the questions, *how*, *how much*, *where*, *when*, *whence*, *why*, which represent the relations of size, quantity, position, figure, extension, quality, change, cause and end. All these categories depend on the first category, which is that of relation, for within us and without us everything is determined by relation; that is to say we never arrive at the thing in itself—the absolute which is the opposite of the relative. The absolute is the being in itself and by itself—*the all.* How can we possibly arrive at it in the world, which is but a collection of relations and representations? and how can we arrive at it outside the world, where it is nothing more than an abstraction? The totality cannot be apprehended in its parts, since it is always divided; nor can it be conceived apart from its parts, for then it would be no more a totality. Should we have arrived at the absolute, we should not be able to come down again to the world, for there is no passage from the single to the manifold. We can only conceive contingent causes, for these contingent causes would cease to be causes, if they depended on a primordial cause, since they would then only be effects; and the first cause, being outside the world, would be as though it were not. That which is true of the category of cause is true of all the other categories. As M. Liard, a firm adherent of the French school of criticism, has said: "Categories are nothing else than the more general and more constant relations according to which we combine our sensations. Isolated from the phenomena, they express only abstract possibilities. If we attempt by their means to penetrate into the absolute, we lose ourselves in a vacuum.[1] In short, to use M. Renouvier's words, the critical philosophy leads us to scientific atheism, by the distinctness with which it eliminates all idea of the Absolute. "There is no knowledge of anything in itself, but everything presents itself as complex and relative to other things in the representation

[1] Liard, "La Science Positive et la Métaphysique," p. 351.

to which it belongs. Every phenomenon is defined by opposition to other phenomena. The word 'being' expresses only a relation. It expresses each group of phenomena, some particular relations of which are given and defined." [1]

There remains however a grave difficulty. The very word "representation" supposes a mind, a consciousness, a subject who represents to himself that which we take for the object. On this point, M. Renouvier does not sufficiently explain himself. Consciousness, with him, is "a collection of phenomena comprised in the category of the personality. Every living being is a consciousness which perceives things as representations. We are constrained to admit a plurality of consciousnesses, for one unique primary consciousness including the totality of phenomena would cease to be a consciousness at all, since it would no longer be able to distinguish anything outside of itself, and the very idea of consciousness implies this distinction of the ego from the non-ego." [2] As to the supposition of a first consciousness, to which all the phenomena that have appeared, or are to appear, should be subordinated, we do not understand how a subdivision of the Absolute into fractional consciousnesses could take place, or how it can have been the All and have ceased to be so. Either the first consciousness finds no limit in the world, and then the world has no real existence; or it finds a limit and then itself ceases to be. It is not permissible then to base the foundation of all things upon this "thing in itself" undefinable and mysterious, from which all things have emerged, in which all are again merged, which is both immutable and the starting-point of all the changes that take place. "In the sphere of knowledge as of human society, we must substitute law for personal government; and adhere to pure phenomenalism regulated by the categories of reason." [3]

[1] Renouvier, "Premiers Essais," vol. ii., p. 271.
[2] *Ibid.*, vol. ii., p. 287.
[3] *Ibid.*, vol. iii., pp. 251, 253.

But M. Renouvier does not stop here. He does not admit that this speculative atheism leads to the materialistic and practical atheism which he abhors. He says: "If atheism meant excluding the fiction of any substratum whatsoever, mind, matter, or *substance*, and proposing to science, not the infinite, impossible, contradictory All, nor the universe drawn from nothing by the power and for the satisfaction of a primal, sole, universal, undefinable, unintelligible Being, but the series of laws illustrated by the visible democracy of existences in nature and in the heavens; if it meant that act of thought by which a free man overturns at once the materialistic or pantheistic idol, and dethrones the Absolute, the King of heaven (the last prop of the kings of the earth), atheism would be the true method, the only one founded on reason, the only positive method." In substance, atheism, thus formulated, amounts to the argument of Kant against the cosmological proof of the existence of God; for French criticism, following the German philosopher, recognises faith in the higher realities as admissible within the moral sphere; but as it has gone further in its metaphysical negation, it is likewise reduced to formulating a mere belief. True to its highest aspirations, it repels with indignation what it calls "that religion of nothingness which is opposed alike to our most steadfast desires and our most sacred hopes." We can but ask how these hopes are compatible with the utter negation of the Absolute.

To find some ground to rest upon, criticism takes refuge in the last relics of the notion of being which it has allowed to remain. We have seen that it maintains the individual consciousness, without which representation would be impossible. It does not matter that this individual consciousness is nothing more than a grouping of phenomena, embraced within the law of personality; it postulates nevertheless the moral idea; it claims the right to believe in its own originating principle and in its own issues, which may reach even to immortality, and to faith in God, or rather in the Divine. This

school at its outset inclined to a polytheistic conception; but this it has gradually abandoned. "True atheism," says M. Renouvier, "does not exclude true theism, either in the moral or in the anthropomorphic sense of the latter word. All the absolute is eliminated, but thought seeks a fixed point beyond particular phenomena. The ideal, dismissed from the world of being, reappears in the ideal of moral perfection. Belief in one God is equivalent to the affirmation of good. A field opens to free belief, beyond the sphere of science, but not hostile to it. The persistence of being and all such ultimate facts may result from the laws of phenomena; the existence of one or of many gods is in no way contrary to reason. We can thus fix our attention on the little world of man and of consciousness, where we shall be all the more likely to find the conditions of certainty, the more we turn away from the great world."[1]

After all then it devolves upon the free will to lay the foundation of certainty; it is a moral affirmation that we need. Reason is nothing else than the man, and the man is always the practical man. We start from ourselves, from our moral law, and we determine what ought to correspond with it in the heart of the universe, in order that there may be harmony. "There is no certainty, there are only men who are certain."[2] M. Pilon has given a very fair summary of the whole system in the introduction to his translation of Hume's "Treatise on Human Nature." "The criticism of the day," he says, "reconciles Hume and Kant. Something is wanting in Hume, the idea of law; there is something too much in Kant, the idea of substance, expressed as the *noumenon*. The phenomenalism of Hume needs to be joined to the *à priori-ism* of Kant. This M. Renouvier has done. It had to be made clear that the true substance, the true *noumenon*, is law; that no other is intelligible, and further that it suffices to unite the *à priori*

[1] "Premiers Essais," Renouvier, pp. 283–289.

[2] *Ibid.*, vol. ii., p. 15.

with the phenomenal, in order to render the latter compatible with the beliefs postulated by morals."[1] Thus we have on the one hand pure phenomena and representations which are always relative; and on the other categories or laws of representation; and lastly groups of phenomena forming the personality, and revindicating as pure beliefs, as postulates, the great simple moral verities. This is the whole system. Never was dualism more decided between metaphysics and morals, and never was the supremacy of the categorical imperative affirmed more emphatically in the acknowledged failure of all metaphysical demonstration.

We are not prepared to admit that this sort of *coup d'état* of consciousness is all that is left to us. In the first place, French criticism has itself introduced, through one of its most distinguished exponents, a very important modification into its theory of the purely relative character of knowledge. M. Liard, in his remarkable book, "La Science Positive et la Métaphysique," following Herbert Spencer, but avoiding his inconsistencies, has established that the very conception of the relative implies that of the absolute; that whenever we speak of the relative, we implicitly contrast it with the absolute, which is thus recognised by the reason at least as an idea. M. Liard goes even further, for he admits that there is a lower instinct which is perpetually urging on the intellect to seek the reason of things, thus attesting at once the limits of our knowledge and the existence of an inscrutable absolute. "The sciences of the relative are perpetually reaching after the infinite. The incessant pursuit of the absolute by the human mind proves that the relative fails to satisfy it."[2] This intuitive vision of the absolute, coming from above into the mind of man, suffices to prove its existence. We know indeed that M. Renouvier altogether denies that the mind of man can by possibility arrive at the absolute; but we cannot forget that he recognises

[1] Pilon, "Introduction," p. 61.

[2] "La Science et la Métaphysique," Liard.

it as a duty for man, as a moral being, to believe in the good by an act of free will. Have we not here the solution of the supposed contradiction between metaphysics and morals? This free act, by its spontaneous manifestation, makes us apprehend liberty as a reality. By what right can reason be forbidden to recognise liberty as a reality outside of and above us also? None of the objections urged by M. Renouvier against the principle of causation appear to us conclusive. "I am free, I feel it, I own it; why should I alone be free? Why should not the principle of my being be free also?" If it is so, the great objection urged by French criticism against the possibility of a first cause is removed. It argues, as we have seen, that there cannot be a first cause, because one of two things must follow, either the first cause is absolute and hence must efface all the causes which we recognise in the world, or they are real and it is limited by them, in which case it ceases to be absolute. Liberty shows us a way out of this dilemma; for absolute liberty can certainly put limits on itself, can even assert itself by accepting voluntarily the limitations imposed by the created liberty of which it is itself the source. Reason and conscience are thus alike satisfied. Again, this individual conscience, which M. Renouvier derives we know not whence, possessing an *à priori* element which is the law of knowledge, cannot be regarded as passive in the very fact of representation. It must group the phenomena under those great laws which govern it; it has a power of reaction: it is not a passive instrument. Thus we find ourselves brought back to the part taken by liberty in the very fact of knowledge, as defined by Maine de Biran. The problem of our personality is solved by that very liberty which is one of the primary facts of moral certainty. We do not belong to the purely relative, for, as M. Liard says, we are not simply carried away by our sensations. We thus escape that singular explanation of our personality as a mere group of phenomena included in the category of the ego, with great *à priori* laws hanging vaguely

over us. That would indeed be a strange grouping of phenomena which should be capable, from a moral point of view, of displaying actively the greatest energy in willing the good and believing in its eternal conditions. Allow that this grouping has been itself a free act, and you have at once the ego with its faculty of unification, which cannot possibly be classed with the phenomenal. Without this element of unity, we fail to conceive how there can be any such thing as a personality at all, how we can arrive at anything but the indefinite multiplication of parts. It is more difficult to explain how the phenomenal representations are linked to the *à priori* laws, than to understand how the subordinate unities are evolved from the primal unity. We can simply refer to the objections we have already made to the subjectivism of Kant, which apply no less directly to the French criticism. Faith in duty implies a real stage for the conduct which it is to regulate. If the world is only a representation, duty is another, for it is nothing more than a metaphysical phantom in a chimerical world. Duty demands the standing ground of reality.

While making these reservations with regard to M. Renouvier's system, we nevertheless recognise its high value. No one has done more than he to give prominence to the moral aspect of knowledge. His work on ethics deserves the most careful study.

CHAPTER IV.

THE TRUE SOLUTION OF THE PROBLEM OF KNOWLEDGE.

In our review of the contemporary theories of the problem of knowledge, we have obtained important results preparing us for its solution.

First.—It is not possible to limit science to the simple conditions of existence, setting aside altogether the inquiry into its causes. Positivism has wholly failed in its attempt to derive all knowledge from the object itself, apart from the activity of the thinking subject. This subjective activity is implied in the simplest induction of a general law from the succession of phenomena.

Second.—The principle of causation cannot be deduced, any more than the other *à prioristic* ideas, from the mere association of ideas, which are nothing more than sensations transformed, as the new English psychology maintains; for this psychology altogether fails to explain the mental power which combines the ideas, which is conscious of their combination and of itself as something apart from them. The persistence of the ego, attested by memory, renders this explanation wholly inadequate, as the psychologists of this school are constrained to admit. The theory of evolution and of heredity brings in the element of indefinite time, but it cannot evolve from sensations that which they do not contain, and which they have no cumulative power to produce. Moreover, the ego predicates itself in denying its own existence.

Third.—The inductive *à prioristic* element of the human

mind, recognised by Kant and by the school of M. Renouvier, does not confine us, as is asserted by French or German criticism, to pure subjectivism, by which no way would be left open to us for arriving at the reality of things, except moral intuition. We have seen first, that while the fundamental ideas of reason are inherent and prior to all experience, they are nevertheless confirmed by the consciousness which the ego acquires of itself in the very act of self-determination. As the will comes into play in the act of thinking, all contradiction between pure reason and practical reason disappears, for both the one and the other is contingent on the exercise of that liberty which we find to be the very essence, as it were, of the human being. Lastly, the postulate of practical reason, the categorical imperative of the moral consciousness, which commands the fulfilment of duty, implies the reality of the world in which it is to perform its functions. It follows that neither the humanity to which it binds us in bonds of duty, nor the higher and divine world in which the categorical imperative finds its necessary sanctions, can be pure illusions. The problem of knowledge, thus freed from the theories which misrepresent it or render it chimerical, is brought near its true solution. It is important for us to formulate it with precision, for before we proceed to inquire further into the problem of the world and its origins, we must know what our intellectual instrument is capable of, and whether we may really trust to it.

I. Genesis and Development of Knowledge.

Let us attempt to describe the genesis, the development, and the conditions of our faculty of knowing. The human mind would remain inert if it were not aroused from without; all its thinking energies would lie dormant. It is needful then that sensation should begin to act, that it should thrill the nerves which correspond to each of its modes, and should reperceive itself in the nervous centre. We reserve for the anthropological section of this work the complete refutation of the

naturalistic theories which affirm that sensation is transformed into thought by mere cerebral action.

Even the sensation which remains mere sensation, is not adequately explained by molecular motion. It implies, alike in the child and in the animal, an obscure and confused psychical activity. We confine ourselves for the moment to the statements, already quoted, of one of our most eminent physiologists, as to the impossibility of identifying the molecular motion of the brain with thought. In order that sensation may become perception, all our faculties must be brought into play. Sensations which were not prolonged as images, would leave no trace and would furnish no materials for ideas. Imagination must give them the necessary fixity. In order to derive ideas from them, the mind must compare phenomena, seize their points of resemblance and difference, and thus rise to generalisation, without which it would be, so to speak, lost in a confused multiplicity of sensations and images and would fail to grasp anything distinct. To think is to unify. "Without general ideas," we read in M. Janet's excellent summary of his philosophy, "it would be impossible for men to think, for to think is to generalise. So long as I am absorbed by an individual object, without even observing that it is individual (for this would imply the idea of the general) it cannot be said that I think, but only that I feel. It is when I have remarked that such and such an object resembles some other, and have placed both in the same class, as for example in the class of flowers, it is only then that what we call *thought* takes place."[1] Thus we only rise from sensation to perception by a positive act of thought; and in order to perform this act, we need the will and the attention, which implies resolution. Doubtless these operations are accomplished with great rapidity; habit and heredity render them spontaneous; but at the starting-point there is always positive mental activity.

[1] "Traité Élémentaire de Philosophie." Paul Janet.

We have only so far reached the starting-point of the intellectual operation by which we come to know the outer world. Physical effort has made us cognisant of an element foreign to the ego in our own body, by the resistance it has offered to us. This foreign element being admitted, we have discovered further that it is subdivided, that it is multiform. This we learn from mere contact with our fellow-creatures, having bodies like our own. We find this element outside of us indefinitely extended. We have thus arrived at the idea of matter. If we apply to it the notion of substance it is because this is an idea innate in our minds; if we attribute force to it, it is because the principle of causation has constrained us to refer to some cause the resistance we have encountered. These bodies we have placed in space, and have recognised that they are subject to the law of succession. Thus only have we acquired a true knowledge of the world without us. We see, that to obtain this knowledge in the most elementary degree, requires the direct intervention of our reason. M. Charles Secrétan says: "The integrity of the organ, the presence of a fit agent, and a certain degree of attention, are indispensable before a sensation is produced. But even these conditions do not suffice to give us a perception, or that knowledge of outward objects which we refer to the senses when we say, for example: 'I see a man,' 'I hear a carriage.' We must have the idea of foreign bodies in general,[1] the knowledge inseparable from that of our own body, which we obtain by sight and touch. We must have memory and intelligence, that is to say, general ideas, judgment, and reasoning. Sensible knowledge always demands the concurrence of the intelligence to interpret the sensation. And the sensation itself is not produced without a certain degree of attention, that is to say, of spontaneous activity of the mind. Sensation by itself teaches us nothing."[2]

[1] "De la Certitude," Robert, Part II., chap. 4.

[2] "Précis de Philosophie," Charles Secrétan, p. 46.

Knowledge then consists, not merely in the perception of phenomena, but in their succession, combination, and the prevision of their repetition under the same conditions of existence. We thus arrive at the idea of a law, which we can derive only from induction. To state a law, to determine the conditions under which phenomena will be reproduced, is to infer, to judge of the future by the present. The science of nature is only possible on this condition. "To use induction," says M. Lachelier, "we must admit implicitly that nature constitutes a fixed organism, the phenomena of which are connected and produce each other in a certain order; for if they were not connected and fitted into each other, so to speak, we should have no reason for supposing they would be reproduced in the future under the same circumstances. Thus induction pre-supposes the idea of this fixed order."[1] These phenomena are not only conditioned by one another, they are also combined, co-ordinated in nature; they form systems, harmonies, ever more and more complete. Nature is something more than the movement produced by the simple succession of phenomena; it is not to be explained by pure mechanics. It has a form, a leading idea, perfectly recognisable in the living organism. In order to know what this idea is, there must be an exercise of thought, a distinct effort to rise from the parts of the whole to the whole itself, else the knowledge gained will be only of the parts separately, or of the whole as a mere abstraction. It follows that the knowledge of nature itself implies not only the intuition of unity but that of perfection, that is to say, the highest conception of the mind of man." We are thus raised by mere physical knowledge, above the phenomenal world of sensation up to reason itself.

It will be asked no doubt whether this knowledge, governed by reason, of the sensible phenomenal world, corresponds really to its object; whether we do not in this way get the object so modified that it is impossible to tell what it is in itself, and

[1] "De l'Induction," Lachelier, p. 95.

we are thus driven back on the Kantian distinction between the *noumenon* and the phenomenon. We do not deny that the knowledge of the sensible world does in some measure transform it. That which presents itself to us as colour is in reality only undulation and vibration. But there is nothing to prevent our admitting this transformation of the phenomenon, without going so far as to reduce it to a mere illusion. Sensation is indeed a translation of the external world, but it is a faithful translation of an existing text. The veracity of God is not an argument to be slighted, when once the idea of God has been legitimately sanctioned.

It is needless to insist at any length upon the important part which reason has to play in that knowledge of a higher order which refers to the subject himself, and which is called the consciousness of the ego. Here, as we have shown, the fundamental principles of the reason, which spring into life, so to speak, in the manifestations of the conscious ego, appear in full play. In the free act, which the first simple muscular effort implies, and which in a higher degree becomes attention and reflexion, the ego is conscious of itself as an energy and a cause. Its persistence, attested by memory through all the fluctuations of sensation, gives the realisation of the idea of substance, as the succession of those sensations gives that of time. The very fact of thought, which implies the distinction between the thinking subject and the object thought of, leads to the recognition of another existence outside the ego.

The resistance which demands effort, and of which the ego is conscious in its own body, makes itself felt by the touch; this sense, combined with that of sight, gives a certain experimental knowledge of extension, so to speak. We notice once again, that even in this higher application to the conscious ego, mere empiricism would not suffice to determine the essential principles of knowledge, those categories which at once govern it and render it possible. Neither the activity of the ego nor its persistence, nor the data given us by effort and

attention, would raise us to the principles of causation and substance, or to the ideas of time and space, if these categories were not virtually present in the reason, which alone confers on them the character of universality and necessity; else, as we have already shown, we should never be able to derive them from the most carefully conducted psychological experiments. It is because these great conceptions are virtually present in the reason that they are elicited from the observations which the ego makes of itself and of the spectacle of the phenomenal world.

It is a very significant fact undoubtedly, that these same laws of the human mind are to be observed by us in full operation in the activity of the ego, for we are thus certified that they are not mere empty moulds of thought, formulas signifying nothing. They are thus shown to be consonant with fact; there is a harmony, a correspondence between the real world,—the world without—and the laws laid down by the reason. But reason does not create this harmony, nor does experience supply it, which would be equivalent to saying that it produced it.

Let us look at this master faculty of the understanding,—reason,—in itself. Let us be careful not to relegate it to an inaccessible height, like the Neo-Platonist God, for whom there is no way of passing from his transcendent, ineffable unity to the world of life and change. We admit the just distinction drawn by Aristotle between reason passive and active. The former, directed to the phenomenal world, transmits sensations and feelings, the latter works them out, after having been in some way set in motion. The *à priori* conceptions were up to this time present in it only virtually; it possesses the faculty of producing them, and of formulating as judgments its inherent ideas of the absolute. These judgments become the axioms on which experience is founded, and which govern it, since they embrace all possibilities.

The first of these axioms is the principle of identity, accord-

ing to which a thing cannot be and not be at the same time. Without this, reason is not reason; we cannot trust to it, rest upon it; if it does not exclude contradiction, all knowledge will be impossible. Reason begins with this implicit act of faith. Failing this it has no standing ground; it is carried along without pause and without rest; nothing is true, nothing false. There must be an absolute beginning, a basis which rests upon itself, else thought revolves for ever in a circle, or rather whirls in a vortex. The first condition of science is faith in the true; if it be required to prove the principle, the proof would again need to be proved, and the regression would be endless.

After the principle of identity reason gives us what Kant calls the laws of sensation, the ideas of time and space, then the idea of substance, and lastly that principle of causation which is like the keystone of the arch, or rather which is the impulse, the spur to its activity, the parent of all science. It is from the reason alone that this principle receives the character of universality and necessity which does not belong to the domain of the empirical. If the reason is vitalised by contact with the phenomenal world, it restores a hundredfold that which it has received, for it alone gives the key to open its mysteries. The axioms of the reason explain the relations of the phenomenal world, without which nothing would be intelligible.

Reason does more; it raises us higher than itself, to its own source and principle. It recognises that it must find the explanation of itself in something beyond it. It is by its essence inclined to the perfect and the absolute. There is not one of its axioms which is not based on this: there is a reason for everything. Every change has its cause, every quality its substance, every being its end. These are the principles of reason. Its most general function is to conceive the conditions of order, of homogeneity, of harmony between the effect and the cause. It must then find a reason adequate to itself and to the totality of things, a cause proportioned to the effect. This cause

should be perfection itself, for thought cannot stop at anything lower, and perfection can only be the absolute. Any limited degree of being and of perfection placed at the origin of things is illogical. The absolute being is at the same time perfect, for any imperfection would be a limit.[1] Thus the principle of causation, taken by itself, implies perfect and absolute being, and reason thus lifts our eyes to God.

Here comes in again in its place the great Cartesian proof derived from the contrast between our imperfection and the idea of perfectness within us. "I am an imperfect thing, and I have the idea of perfection." It cannot, then, be I who have originated it, for it goes infinitely beyond me. It comes from above, but it is none the less in me. I am the living proof of its reality quite as much by the poverty of my being as by the greatness of my conception. Only I have learnt, from the great philosophy inaugurated by Kant, not to content myself with pure reason and the intellectualism which the school of Descartes would not have exaggerated if it had more closely followed the first thought of its master, especially if it had fixed its attention upon the clear testimony, borne alike by practical reason and the moral conscience, to a Being not only infinite and absolute, but perfect and holy, the God of liberty, the absolute moral perfection. I thus escape the false notion of the Infinite taught by Spinoza—an Infinite which is wholly extensive, and which, being therefore incapable of limitation, cannot recognise any created liberty, since this would be a limitation of itself. I learn further from the greatest of French psychologists, that the liberty which is the axis of the moral life is also the great motor of the intellectual life, that the two reasons are not separable, and that both alike lead us up to the God of freedom, that is to say, to the moral Absolute.

The Cartesian proof from perfection perceived by imperfection, is as valuable in the sphere of practical as of pure reason,

[1] "De la Certitude," Robert, p. 347.

for it is from the depths of my misery and weakness I see the clear shining of the absolute good, which attracts while it overwhelms me. We say with M. Charles Secrétan, who is the philosopher of liberty *par excellence*: "The proof that the ego is not alone, and is not its own cause, is to be found in the contemplation of the ego itself. We shall discover that we are always endeavouring in vain to find in ourselves the reason of our own being. Behind and beneath the ego we find something greater than the ego. We feel ourselves to be finite, while reason demands the infinite, the absolute; we feel ourselves to be at once free and fettered or constrained—free in the application of our limited powers, fettered in our perception which comes through the senses, constrained by duty."[1] If the ego finds itself at once free and subject to a law, there is of necessity a higher will to which it is under obligation. Thus the fact of moral obligation, like all the *à-prioristic* laws of the reason, compels us to seek a higher unity.

So thought the great Christian Cartesians of the 17th century; and all we need in interpreting their thought, is to give due weight to the moral element. We welcome its exposition from one whose words will never grow old, "Oh, how great is the mind of man!" exclaims Fénélon; "he bears within him that which amazes and infinitely excels himself! . . . Here is a being weak, uncertain, finite, full of errors! Who has instilled into a mind so limited, so imperfect, the idea of the infinite, that is of the perfect?"[2]

Bossuet says:—"We have only to reflect on our own operations in order to understand that we come from a higher principle; for inasmuch as our soul is capable of affirming and denying, and as moreover it feels itself to be ignorant of many things, and knows that it is often mistaken, it perceives in the truth inherent in itself a good principle, but it perceives

[1] "Précis de Philosophie," Charles Secrétan, pp. 122–124.

[2] "Œuvres de Fénélon," vol. ii., "De l'Existence de Dieu," pp. 86, 87.

also that it is imperfect, and that there is a higher wisdom to which it owes its being. (In fact, the perfect must exist before the imperfect, as the less presupposes the greater, of which it is the lesser part.) Thus it is natural that the imperfect should imply the perfect, from which it is, so to speak, fallen; and if an imperfect wisdom like ours, with its doubts, ignorances, and errors, does not cease to be, with how much stronger reason must we believe that the perfect wisdom is and subsists, and that ours is but a spark from it. We know then by ourselves and by our own imperfection that there is an infinite wisdom which never errs or is in doubt, and which is ignorant of nothing because it has a full comprehension of the truth, or rather is itself the truth. . . . . A Being eternal, immeasurable, infinite, exempt from all evil, free from all limitation, all imperfection. What miracle is this? We who are but finite, who look only on things bounded like ourselves, how have we come to conceive this eternity? Whence came to us the thought of this infinity?[1]

"Since the finite thing cannot contain the infinite," says Malebranche, "the simple fact that we conceive the infinite argues that it is. All this is founded upon the simple and evident principle that nothingness cannot be directly conceived. To conceive nothing, is the same thing as not to conceive at all."[2]

II. Share of the Will in Knowledge.—The Conditions of Certainty.

This powerful Cartesian logic appears very conclusive, and yet we have to admit that mere reasoning does not suffice, and that in order to arrive at certainty, either moral or intellectual, there must be the co-operation of the will. We do

[1] "Œuvres de Bossuet." See "La Connaissance de Dieu," and "Sermon sur la Mort."

[2] "Œuvres de Malebranche," vol. ii. p. 366.

not refer simply to that free act which takes place whenever there is conscious effort on our part: we mean rather that there must be a positive determination of the will before there can be any real acquisition of knowledge, even of purely intellectual objects, not to speak of great moral truth properly so called. For first of all, we only arrive at knowledge worthy of the name, by the degree of attention which is called reflexion, and which implies at once the concentration of our faculties of perception, the isolation, by an effort of thought, of the object of our study so as to bring it under our direct observation, and the resolute resistance to all distracting influences from without. We never reflect but by a determination of the will.

In the second place, every judgment which applies an attribute to a substance, implies an act of will, for it involves a comparison of different attributes. A truth of any order whatsoever demands our assent before we can be said to have made it our own; and this assent or consent is something more than a mere passive acquiescence.[1]

Error always arises out of negligence, an indolence of the mind which has made it stop too soon in its inquiries. We must not confound error with the mere limitation of our knowledge. Error begins from the moment when, by a hasty affirmation, we have drawn unwarrantable conclusions from insufficient observation. Descartes makes very wise reflexions on this point, showing how much scope he allowed to the free action of the mind: "Coming more closely to myself," he says, "and examining of what kind my errors are (which alone argue imperfection in me) I notice that they depend on two concurrent causes, namely, on the faculty of knowing which is in me and the faculty of choosing, or freedom of the will; that is, on intelligence and will together. . . . If, when I do not with sufficient clearness and distinctness perceive what is true, I abstain from forming a judgment, it

[1] "La Certitude Morale," Ollé Laprune, chap. ii.

is clear that I act rightly and am not deceived, but if I either affirm or deny, then I make an improper use of my liberty to choose, and if I turn to that side which is false, I evidently am deceived. . . . In this improper use of free choice, I am influenced by some prejudice, and this determines the form of the error."[1]

Malebranche is no less explicit than Descartes as to the moral defects which underlie intellectual errors. "We are as free," he says, "in our false judgments as in our lawless affections. The human mind is not subject to error because it is finite, and therefore has a smaller range than the objects it contemplates, but also because it is inconsistent. In order to apprehend the cause of this inconsistency, we must understand that it is the will which governs the operation of the mind; that it is the will which directs it by preference to certain objects, and that it is the will itself which is in a state of constant vacillation and restlessness."[2]

No one has spoken more truly and thoughtfully upon this subject than the great theologian Schleiermacher, in his posthumous Lectures on the Life of Christ. "Truth," he says, "is the natural estate of man; his faculties in their normal condition would lead him to it. The state of ignorance and uncertainty is not error; error begins from the moment when the mind arrives at a false conclusion. This arises from his stopping too soon in his investigation of truth, thus showing that he has not loved it as it deserves to be loved, or that he had some secret inclination to accept some incomplete result. It is not possible, then, absolutely to distinguish error from evil, at least in relation to that order of truths which appeal to the conscience and the soul."

It is indeed in relation to this order of truths that the part of the will is so important; for we cannot ignore the fact,

[1] "Méditations," Descartes, pp. 172–176.
[2] "Œuvres," Malebranche, vol. i., p. 30.
[3] "Leben Jesu," Schleiermacher, p. 118.

that, even when reduced to their most general form, to the simple "categorical imperative" of Kant, they come into conflict with all the lower tendencies of our nature.

These truths are obligatory apart from their evidences. They command obedience but do not force themselves upon the reason by a sort of dialectic necessity, as the result of inexorable logic. Their very nature implies that this is not the basis on which they rest. The first duty is to believe in duty; but duty is of such a nature that it can be evaded, and the eyes can be closed against it. Moral truth appeals to the intuition, and as this is not capable of demonstration, there is nothing to hinder our ignoring it. In the domain of morals especially, reasoning sometimes destroys reason. Practical reason, like pure reason, presupposes an element of *à priori*, of the intuitive, which we can trace no further. Nothing can be easier than to put oneself out of condition to grasp this, by allowing the delicate sense of moral truth within us to get deadened. Nothing can be more easy than to stifle this direct intuition altogether, and to substitute for it mere dialectic subtleties. Logic imprisons liberty in a network of contradictions from which it only escapes when, by a sudden stroke of the wing, it rises into the higher region of intuition, where conscience commands without arguing, and the supreme authority is duty.

Determinism begins directly we leave this higher region; for the principles beyond which we cannot go, and which represent to us the beginning of all things, are the only things which its system cannot comprehend. Below them everything fits in, in regular sequence; they alone cannot be included in the fatalistic succession, because they are principles, and they would cease to be so were they shown to be mere links in a chain. They are only recognised therefore by intuition. If they are withdrawn from this sphere they have no longer any existence for us. With regard to moral truth, intuition is only rendered possible by purity of heart, or at

least by integrity of will. The pure in heart alone see God. If we associate moral truth with God, it is because, as we have seen, it cannot be severed from God without losing its reality and its sanction. In order to show how moral truth implies the existence of a God, we have only to note how far it surpasses and sometimes almost overwhelms us. We who are not only finite beings, but frail and faulty, are capable of conceiving the highest good, the ideal of perfection. It must then be something above us, and not the product of our own conceptions; for if we were shut up within ourselves, we should be incapable of conceiving anything better than ourselves. This living character of moral truth, which forbids our limiting it to a mere formula, and gives it in some way the grandeur of the highest personality, is a further reason for assigning a large part to the will and to the heart, in our appreciation of it. "Thought alone can only apprehend a formula; a personality is beyond its grasp; it can only discern its outlines and limits; it never gets to the heart of it. A personality must be loved in order to be known, and without moral harmony it is incomprehensible. How then can thought alone apprehend the highest personality who is the Absolute Good? Living truth presents, to any one who studies it, an infinity of aspects, and is too vast to be comprised in a few formulas. These formulas are rather symbols of the living truth." [1]

God is only known, as Pascal truly says, when He is felt in the heart. "Moral truth ignored, or even neglected, is not borne in upon the mind by the all-powerful virtue of a syllogism. Neither the excellence of truth nor the dignity of the soul allows this. No; the relation must be one both closer and broader. Is it not a sublime intimacy which is established between truth and the human soul, when the former seeks and obtains the assent of the latter? This is a real exchange, a bond of friendship, for in the moral order abstractions have

[1] "La Certitude Morale," Ollé Laprune, p. 351.

only a provisional value; behind ideas, there are beings, and these beings are persons. In truth, all is comprised in this; the call of God, the response of man. This is the whole of the moral life." [1] "Listen," says Bossuet, "listen in the depths of your nature, where truth makes itself heard, where pure and simple ideas present themselves."

Moral certainty then implies the exercise of the moral faculties, the firm resolve of the will to bow to the categorical imperative, and to place the sacred intuition of duty above logical necessity. It is impossible not to see moral loss in the denial of the truths revealed by conscience. Only we must make allowance here for all the inconsistencies by which man sometimes rises above his doctrine and sometimes falls below it. Just as there are atheists who by their virtues and noble lives would make men believe in God, and who are atheists only because all that they have known under the name of God has been a monstrous idol of human fabrication; so are there also professed worshippers of the Divine, who are its worst desecrators. When we speak of the true moral certainty, we mean that which is at once theory and practice, which is, so to speak, a vision of the Divine and its manifestation in the life. This we hold to be possible to any one who is willing to make the legitimate use of all his moral faculties. On the other hand, in spite of all our respect for liberty of opinion, we are constrained to regard the denial of moral truth as a deviation of the will.

Scepticism, which, under forms sometimes the most brilliant, calls in question this moral order, and admits nothing higher than mental curiosity; the refined epicureanism which desires always to enjoy and never to obey, is a disease of the soul. Its doubt proves nothing, for it is wilful doubt. It is not enough to say: "What is truth?" with a view to getting our doubts confirmed. If it is said ironically, as Pilate said it,

[1] "La Certitude Morale," Ollé Laprune, p. 351.

we shall have no reply; or rather, we shall have the reply we wish for, which is a mere negation. Scepticism is no more a disproof of moral certainty, than sickness disproves the possibility of health, or than eyes voluntarily closed disprove the sunshine. It is a familiar fact, that we may have eyes that see not, and ears that will not hear.

"The action of the will is not concentrated on a single moment of the moral life. Every man is more or less prepared, under given circumstances, to receive the new light brought to him, according to the use he has made of the earlier lights which have shone within his soul. Past faithfulness is the best measure of present aptitude to recognise the true. To think is a natural exercise; to think rightly depends to a certain extent upon our own will." [1]

M. Liard has put this moral aspect of knowledge very forcibly in the following passage of his book, "La Métaphysique et la Science." "The metaphysical question," he says, "is one of high interest, specially from a moral point of view. In believing in duty, we feel the necessity of believing in something beyond the mere order of logic and science. We feel within ourselves two distinct authorities, the law of thought and the law of morals. The authority of conscience takes precedence of that of science. On the very threshold of metaphysics we must inscribe a moral truth, and ask of the conscience an explanation of the world in harmony with it. The moral metaphysic, which can only meet the deepest speculative requirements of the mind with the answers of conscience, does not necessarily carry conviction with it. In order to receive it, there must be the acquiescence of the will, the belief that moral truth is the summum bonum. An example of virtue, however obscure, is a better auxiliary to metaphysics than the most brilliant scientific discovery." [2]

"The personal act which is required of us," as M. Ollé

[1] "La Certitude Morale," Ollé Laprune, pp. 368–376.
[2] "La Métaphysique et la Science Physique," Liard, p. 48.

Laprune well says, "has the result, not of submitting the truth to the person, but the person to the truth." [1]

Let it be observed that we make no concession to anti-scientific mysticism, in assigning a large part to the will in the attainment of moral certainty. We adhere faithfully to the general and universal laws of certainty. These laws, which govern all experience, have been admirably set forth by Claude Bernard in his introduction to the experimental method. He there recognises most distinctly that the experimenter is not to read the lesson to nature, but is entirely to subordinate his preconceived ideas to the facts observed. He says: "So soon as nature speaks, the experimenter must be silent. He must never reply for her, nor listen hurriedly to her replies. In nature, that which our theories declare to be absurd is not always impossible." [2] Claude Bernard lays it down as a rule that our experimental processes ought to vary with the objects of our investigation. "The processes of experiment," he says, "ought to be infinitely varied, according to the different sciences and the varying cases, more or less difficult and complex, to which they are applied." That which is true of the purely natural, is equally true of the domain of conscience, the higher sphere of moral truth. It ought to have its own processes and proper method of observation. Simple logical deduction is here as much out of place as the scalpel and the telescope. Primary truths are perceived by intuition; moral truths require in addition the exercise of the will. This intuition, accompanied with a right will, may well be called moral faith. This faith will not be an act of implicit belief ignoring experiment, but a higher mode of experiment applied to first principles—the only one applicable in this domain, which does not admit of proof and reasoning because it lays down axioms and fundamental truths; while, if they in their

[1] "La Certitude Morale," Ollé Laprune, p. 364.

[2] "Introduction à la Médecine Expérimentale." Claude Bernard, pp. 4, 7, 364.

turn had to be sustained by evidence, they would cease to be the foundations of the moral and intellectual order. That which demands proof, is not the true beginning. "It is this light which determines faith to cross the threshold of the obscure region where it is not to be absorbed in stolid possession of an unintelligible object, but is to strive after and achieve new and clearer light."[1]

The intuitive faith of which we speak, is in truth a form of experiment, and the only one adapted to this order of truths. This intuition, by its very nature, cannot be a simple deduction, drawing one after another the consequences of certain premisses, for it rises to the principle itself. This it does by the boldest of inductions, breaking through the finite as through the walls of a prison, and lifting itself to the divine infinite.

In order to arrive at this it must doubtless be attracted and vivified by it. As Père Gratry has well said: "There are movements which the mind left to itself does not make; it may deduce, but it does not take an unaided flight."[2] We cannot, however, admit the sharp dualism which he maintains, between the first operation of the mind, acquiring moral truth by intuition, and the second operation, by which it becomes united to the Divine; as though reason were divorced from faith. It is not so. From its very beginning, moral certainty is an act at once human and divine. As soon as man comes into contact with the living truth, there is a correlation between him and God. The light no doubt grows, but it reaches its noontide fulness in the same way as its dawn. The first act of faith or of intuition, by which man apprehends the categorical imperative, and with it the Legislator Himself, is of the same nature as the act which subsequently unites him closely to the Divine. The first is no less mysterious than the second; for the mystery consists in that immeasurable fulness of the in-

[1] "La Certitude Morale," Ollé Laprune, p. 365.

[2] "De la Connaissance de-Dieu," Gratry, vol. ii., p. 287.

finite which our formulas and our finite minds are alike incapable of containing. Fénélon has said with profound truth: "I only count upon grace to guide my reason within the limits of reason."

There is great danger in establishing, as Père Gratry and Malebranche before him have done, an absolute distinction between the initial act of reason and of conscience, and that which they call the act of faith. Faith, in the sense we have accepted, is active and present in both these phases of knowledge. The difference between them is quantitative, not qualitative. Unless we admit this, we are in danger of coming back by a roundabout way to the scepticism of Bayle, whose great art is to let loose the reins of free thought in the natural or rational domain, and to pull them up short before the enclosed domain of faith, of which he virtually says: "It is sacred, for none may touch it. Reason has destroyed, or is reducing to nothing, all religious doctrines; but be reassured, they all remain intact up there in the clouds, in the empyrean of unquestioning faith." We do not admit this antinomy. Faith, we say, is active in the first operations of reason; and reason accompanies faith in the development of religious knowledge. The relations of the two were well put by Clement of Alexandria, early in the third century. He regards faith as a legitimate process of knowledge, which, so far from suppressing the experimental, alone renders it possible, since it deals with the first principles which are apprehended solely by intuition. We cannot admit any axiom without an act of faith, which is nothing else than that which Epicurus himself called an anticipation of the mind. This intuition of faith is in reality the very key to science, its first condition.[1] If this intuition is necessary even for the first principles of all science, how much more must it be so when we have to do with the first of all principles, the living Absolute, which is God? "The mind," says Clement of Alexandria, "rising above all worlds, above

[1] Ἡ μὲν αἴσθησις ἐπιβάθρα τῆς ἐπιστημῆς, "Stromata," II. iv. 16.

all the spheres of the created, soars to the lofty region where dwells the King of worlds; it reaches the immutable by a way which is itself immutable." Clement assigns its legitimate share to the will in this act of faith and intuition, by which man rises to the Divine. The first necessity is, that the soul should aspire to the higher verity.

"The beginning of wisdom is to aim at that which is useful. A firm decision is of great weight in the acquisition of truth. The will takes the first step. We need to rekindle in the depths of our soul the living spark which we have received, and to be on our guard against the idle curiosity which would keep the mind walking up and down in the truth, as we walk up and down in a city to admire its buildings. Further, we must purify our souls, for it is with the temple of truth as with that of Epicurus, on the forefront of which were inscribed these words: 'He must be pure who enters the precincts of the sanctuary.'"[1]

Clement of Alexandria only describes the grand method, which ought to govern all our researches after truth, when he bases his apology upon the principle that *like discerns like.*

Is not this, in truth, the very principle of the experimental method, which consists in adapting the processes of observation to the nature of the object to be observed? To go out with one's whole soul towards the being, and that which is most evident in the being, this is good, says Plato. Clement, who believes in the living and personal God, recognises His action upon the mind, to enlighten and vivify it; but he holds that this action begins with the earliest illumination of reason, or with the first intuitions. It goes on increasing and developing, but does not change its nature. Faith in the highest revelations of God, faith in Christ, obeys the same laws as the faith in the first intuitions of consciousness and reason, by which we rise to God. He thus escapes all the dangers of dualism.

[1] "Stromata," III. vi. 17.

Nor does he, under pretext of fortifying human weakness, set up a purely external power, which shall impose upon us decisions which we have no right to question. This implicit trust, which opens an unlimited credit with a high court of doctrine, has no analogy with faith as we have understood it. Nothing is more dangerous than to make capital of the unquestionable fact that both the reason and conscience are ready to accept, at the dictum of a higher power, that which is contrary to their nature, and consequently incapable of all experiment and all knowledge. Moral certainty is gravely compromised by being thus identified with the abandonment of reason and the assertion of a presumed infallibility.[1] The conscience

[1] M. Ollé Laprune's book is nevertheless, as a whole, very remarkable for the way in which he establishes the part taken by the will and the reason in the certainty of moral faith. M. Janet has discussed the fundamental thesis of this book in the "Revue des Deux Mondes" ("La Philosophie de la Croyance," Oct. 15, 1881). While recognising the share of the will in intellectual exercises, such as attention, reflection, assent, without which no judgment could be formed, he refuses to it any legitimate share in the acquisition of higher truths from a moral point of view. Let us be well understood. We think with M. Janet that M. Ollé Laprune is wrong in holding that the will supplies in any degree whatever the experimental knowledge of truth. There are not in fact two methods of acquiring knowledge and certainty. There is but one method, namely, experience. But experience varies its processes, that they may be adapted to the various aspects of fact. M. Janet holds, as we do, that intuition plays a necessary part in the appropriation of the truth as contained in the fundamental axiomatic principle which precedes all dialectics. Practical reason has, like metaphysical reason, its intuitive process, by which it apprehends the moral axiom which is the categorical imperative. We cannot reject this intuition because we may dread it, and find our interest in not believing in duty. Hence our will is involved in the moral question, and must decide it. It does not create or demonstrate the moral axiom, but it places us in the normal condition to recognise it. As this axiom is a *categorical imperative*, a *command*, an obligation, it is our distinct duty to accept it without discussion, at least generally, as the principle of all morals; for we would sedulously guard against including as axioms all its conclusions and practical applications, which may be falsified by errors of judgment. We maintain therefore, that the first duty is to believe thoroughly in duty, which is the very basis of conscience. We do not

never abdicates its rights, else we should be deprived of the only organ by which we can know moral truth. We do not shut our eyes in order to see further.

We have so far confined ourselves strictly to the problem of knowledge. We have first rescued its noblest domain from the positivism which would forbid all inquiry into causes. We have next shown how the principle of causation points to something above ourselves, and cannot be explained away into the mere association of ideas, themselves composed only of images and sensations. After having traced it in the reason as the essential *à priori* element, which it derives only from itself, we have found that it carries us upward to the cause of causes, of which we have the idea, and to which we aspire from the lowness of our imperfect state, thus proving that it is not in ourselves. We have found that the great Cartesian proof is as strong as ever, that it has indeed gained in the end by the reaction of German and French criticism; for this has shaken off the intellectualism which weakened it, and subordinated intellectual to moral certainty. We have not been able to admit the radical contradiction maintained by the critical school between metaphysical and practical reason. We maintain first, that both have need of the will to give them effect, and second, that while the categories of pure reason are the object of experience in the activity of the ego, practical reason implies the reality of the world in which the mandates of the imperative are to be obeyed. The principle of causation derived from pure as well as from practical reason, or, to speak more exactly, from the mind of man considered as a whole, leads us by the most irresistible induction to the God, who is at once the Infinite Being and the Absolute Good; and as it introduces us into

derogate from the laws of moral certainty, as it appears to us M. Ollé Laprune does, by concessions to human testimony which lead him by a circuit to accept the authority of the infallible tribunal of the Church.

the moral domain *par excellence*, we only enter it by bringing ourselves into harmony with it. Hence the share of the will in moral certainty.

It may be said that, without going further than the problem of knowledge, the cause of spiritualistic philosophy is already gained; but we have no right so to restrict ourselves. We are bound to look beyond ourselves, to turn to the world, to the world of nature and to that of history, in order to ascertain whether they contradict the results arrived at. Only we know how to interrogate them by virtue of that great principle of causation which we have tried to place, at least as far as we ourselves are concerned, above doubt or question.

We have concluded, with Descartes, that "there ought to be at least as much reality in the efficient cause, as in the effect of that cause;" that the effect can only derive its reality from its cause "that nothing can be produced by nothing, nor yet that which is more perfect, *i.e.*, which contains in itself more of reality, from that which is less perfect;"[1] in a word, that the greater cannot be derived from the less.[2]

[1] Descartes. "Méditations," p. 157.

[2] M. l'Abbé de Broglie, Professor of Christian Apologetics in the Catholic Institute of Paris, has published an important book on the problem of knowledge, entitled: "Le Positivisme et la Science Expérimentale." It reviews not only the Positivist school, but all collateral or derived theories, such as the transformist monism of Herbert Spencer and of Hæckel. The extensive scientific acquirements of the writer give great precision to his discussion. We shall have occasion more than once to quote him in the course of this work. For the present we shall simply try to indicate his general standpoint. M. l'Abbé de Broglie endeavours to establish, against the Positivist school, that the mind of man can arrive at substances and causes, and that it is not confined to the purely subjective. He takes his stand on what he calls *common sense*, that implicit certainty of the reality of the object of knowledge, which is admitted to be universal by something stronger than mere universal consent. It presents itself indeed in a confused sort of way, which philosophy is to clear up, but only with a view to better establishing its fundamental certainty. The author goes into a most minute and learned analysis of our sensations, in

order to prove that, if it must be admitted that they are only a translation of outward realities, they are nevertheless a faithful translation. The reader will feel a special interest in the part of his book which distinguishes between the sense of touch, which brings us into direct contact with bodies, and the senses of sight and hearing, which evidently only give us the object transformed, since, apart from our sensations, there are no colours or sounds, but only vibrations of the air. He endeavours to show that common sense is not mistaken in believing in the *noumenon;* that is to say, in the reality of the object; for science is based upon belief in this reality, and the sense of touch brings it close to us, as in bodies. As to the principle of causation, which is equally plain to common sense, it is not only inherent in our reason, but is manifest also in the best ascertained facts of natural science, for in its ultimate generalisations, this science always demands a cause. It is idle to speak of light, electricity, heat, as mere motion; science nevertheless goes on to seek in the vibrations of the ether the cause of these changes. With regard to spiritual substance and free causation, M. de Broglie appeals to the deeper moral sense which is the highest form of *common sense*. This expression, which plays so large a part in his discussion, does not seem to us happily chosen. It savours too much of the empirical, especially as M. de Broglie owns that this common sense has constantly to be corrected. Processes of analysis and successive approximations are, in his view, constantly going on. We prefer to appeal to the great primordial intuitions of the human mind, to that *à priori* which is its essence and which is formulated in the categories. I know indeed that this does not enable us directly to apprehend reality, since we only perceive reality according to the laws of our understanding. But the author who is bound to admit that sensation gives us only a translation of the reality, comes no nearer to it by his system. As M. Janet well observes, in his review of M. de Broglie's book, touch itself does not give us the direct reality, for cutaneous and muscular sensations are purely subjective ("Revue des Deux Mondes," June 1, 1882). The author too much ignores relative truth, and therefore the merit of the great critical school. Kantism he regards as pure scepticism. He forgets the great act of faith in the moral world which crowns the system and which, as we have tried to show, ought to lead further than subjectivism in the conception of nature, and to issue in a real world, always with this reservation—that we know it only in a translation.

"Why," as M. Janet says again, "should we reduce the laws of the mind to pure subjectivity? Why should not the mind be the legislator of nature, though it is not its Creator?" That the translation is faithful, is implied by the very faith in God and in moral order. The Cartesian argument of the Divine veracity is thus strengthened. "The idealist hypothesis owes its value to an equivocation by which objectivity is confounded with materiality" (Janet). After all, M. de Broglie appeals, like

Kant, to intuition for the whole order of higher truths. St. Thomas Aquinas will no longer suffice; it is not possible to ignore the great critical school, especially when so many concessions have in fact to be made to it. While making these reservations, we commend to the reader M. de Broglie's book, as containing very keen, original and conclusive arguments against some of the essential points of Positivism and monism.

BOOK SECOND.

THE PROBLEM OF BEING.

CHAPTER I.

ORIGIN OF THE COSMOS.

One of the strongest living advocates of materialism, after enumerating the simple bodies discovered by chemistry, concludes with these words: "Hydrogen, oxygen, carbon, etc., are the elements at present recognised as constituting the earth, its products, its inhabitants, and its atmosphere. From the facts thus acquired, we draw a conclusion broad enough to comprehend all the partial modifications with which experience may make us acquainted. The things which in their totality are expressed by the word universe, are formed of a certain number of known substances, beyond which there is nothing. Simple bodies, combined in various proportions, have received and will retain the generic name of matter." [1]

The calmness of this affirmation amazes us; we could fancy ourselves again in the school of Democritus. This is surely a childish argument, which mistakes the appearance for the reality. Yet we have seen in our previous chapters, that this matter, so indubitable, which is to explain everything, and our mind first of all, is never directly approached by us; that we only know it through the sensation which modifies it, or rather that we are only directly certain of the sensation, that is, of the facts of our own consciousness. The point of fixedness and certainty eludes the lever of Archimedes, as soon as we begin to seek it outside of ourselves. To make matter the starting-point from which we are to proceed to the explanation of things and

[1] "La Philosophie," A. Lefèvre, p. 46.

of mind, is to explain the better by the less known. Again, the advances of science have more and more refined away and idealised the notion of matter. Descartes made it to consist in extension; but no perception of the senses directly gives us extension. We feel a certain resistance, we see certain colours, but there is nothing in this to give us the notion of extension. These sensations, moreover, like all others, are facts of the consciousness which modify, in a proportion we have no means of determining, the phenomena perceived. What, again, are we to understand by this extension, which constitutes matter? Is it pure empty space? Nothing could be more remote from what we mean, for how can a vacuum resemble bodies? Is it the plurality of atoms which are the parts of the whole which we call matter? But these atoms have not disclosed their secret. We have only put the difficulty a step further back; we fail to find anywhere the ultimate elements, the true component parts of extension. Hence it follows that extension is a conception of our mind, and consequently is directly opposed to materialism.[1]

Let us then discard extension as an obsolete definition of matter, and try the atomic theory.

Lange has shown how the atom itself eludes entirely the grasp of the sensations. The indivisible atom, which should be the ultimate constituent of matter, has no existence. "It is itself composed of sub-atoms; and these sub-atoms? They either resolve themselves into mere force-centres, or if in them again elastic impact has to play any part, they must in turn consist of sub-atoms, and we should again have that process running on into infinity. . . . Accordingly there is already contained in Atomism itself, while it seems to establish Materialism, the principles which break up all matter, and thus cut away the ground from Materialism also."[2] "If now, with Ampère, we resolve the atom too into a *point* without exten-

[1] "Le Matérialisme," Rabier, Encyclopédie.

[2] "History of Materialism," Lange. Lichtenberger, vol. ii., p. 376.

sion, and the forces which group themselves about it; the *point*, 'the nothing' must be matter."[1] According to Du Bois Reymond, if we attempt, like Büchner, to connect matter closely with force, conceived as the cause of motion, the attempt is nothing else "than a more recondite product of the irresistible tendency to personification which is impressed upon us. . . . What do we gain by saying it is reciprocal attraction, whereby two particles of matter approach each other? Not the shadow of an insight into the nature of the fact. But, strangely enough, our inherent quest of causes is in a manner satisfied by the involuntary image tracing itself before our inner eye, of a hand which gently draws the inert matter to it, or of invisible tentacles with which the particles of matter clasp each other, try to draw each other close, and at last twine together into a knot."[2]

The constant tendency of science is to resolve matter into force. We call matter that which we find ourselves unable to resolve into force. In short, in the present state of the physical and natural sciences, matter is everywhere the unknown, force is the known. "The misunderstood or unintelligible remainder from our analysis is always the matter, however far we choose to carry it. . . . The matter is invariably what we cannot or will not further resolve into forces. Our tendency to personification, or, if we use Kant's phrase, what comes to the same thing, the *category of substance*, compels us always to conceive one of these ideas as subject, the other as predicate. As we analyse the things step by step, the as yet unanalysed remainder always remains as matter, the true representative of the thing."[3]

These conclusions of the learned author of the "History of Materialism," disturb the pure faith of the apostles of this doctrine. M. Lefèvre, in his latest work,[4] makes it a severe

[1] "History of Materialism," Lange, vol. ii., p. 379.
[2] *Ibid.*, p. 378. [3] *Ibid.*, p. 379.
[4] "Renaissance du Matérialisme," A. Lefèvre, p. 31

reproach against Lange, that he also seeks that which lies beyond, the *wherefore* of things, yielding to the impulse of a wild idealism. He says: "If Lange had been content to group together the results obtained from experience, and to derive from them the conclusions to which they point, by means of the ordinary faculties and operations of the human organism (sensation, memory, abstraction, generalisation), he would not have shaken the solid ground of positive science, and he would have acknowledged that in the world which man knows under the recognised conditions of knowledge, there is nothing more than chemical elements and their combinations."

M. Lefèvre forgets that Lange, in this part of his book, is not inquiring into that which lies beyond, but into the very essence of things; that he is not spreading the wing of fancy or speculation, but using in good earnest the scalpel of the analyst.

It is in interrogating the conception of matter that he reduces it to a simple idea; it is by means of those very processes of knowledge to which his opponent appeals,—sensation and generalisation,—that he establishes that the thing which we know least is that very material world which M. Lefèvre and his friends present to us with such happy but ill-founded confidence, as the one incontestable reality. According to them, there is nothing in the universe but chemical elements in combination; and yet we find that this explanation of things is an illusion as unphilosophic as the most chimerical legends of the infancy of the race. We should like, before entering on this discussion, to recommend the exercise of a little more modesty to the advocates of materialism, and to remind this great phantom-slayer, that it is itself supremely fanciful, and that no system rests upon a more frail and imaginative basis than its own. It believes only in sensation, and sensation prevents its seeing anything directly; it can never escape from this vicious circle.

It might be thought that our opposition to the materialistic

school need not go beyond this preliminary question. But such is not our view. We have already shown that the spiritualists have the only solid foundation for certainty, not only in relation to the higher truths, but also with regard to those of the external world. We have explained the reasons which give us confidence in the instrument of knowledge and in the veracity of God. We shall not go over this ground again. We shall assuredly not ignore the share of the subjective in our knowledge of things, since we arrive at them only through sensation; but, without pretending to approach things directly and exactly as they are, we are convinced that there is a general and fundamental correspondence between the object known and the subject knowing. Thus, although we might refuse to accept the conclusion of materialism because it cannot be based on anything but sensation, and while we still retain all that is decisive against it in this argument, we will concede to it the existence of this world, though it has not the same ground for affirming it that we have. Setting aside now the arguments in support of theism which we have already found in our theory of knowledge, we will interrogate the universe and inquire whether, supposing materialism is entitled to affirm the existence of things, it gives an adequate explanation of them when it maintains that, apart from chemical elements and their combinations, there is nothing.

This inquiry, to be conclusive, implies that we accept the results of science duly authenticated, and that we acknowledge, without limitation, their authority in this department. It is clear that what we want is a succinct explanation of its leading points and distinctive features.

I. The Reign of Law in Nature.

The further we descend in the intellectual scale, the more the world appears devoid of thought, self-contained, without explanation, plan, design. The animal, reduced to sensation,

incapable of reflexion or generalisation, sees only in the world that which it seeks, its plentiful storehouse, its abundant pasture. The savage has a vague presentiment of some mysterious cause, because the reason which slumbers within him darts some illuminating rays through his dull uncultured brain; but he does not look beyond things as they are. He imagines that the world before his eyes has always been; that the same sun has lightened it, the same showers watered it; that the forest has always been peopled with the game which he seeks in the chase and the wild beasts which he tries to destroy. Sensation knows no before or after. It is content with that which appears; and to all appearance nature is immutable, constantly reproducing the same series of phenomena in endless succession. Nothing could be more akin to materialism than the conception of the savage, or rather of the child; for the savage does not escape the tendency to go back to causes and principles, with this difference that materialism attempts to justify its thesis by science, and that this very attempt to justify itself suffices to break through its self-imposed limitations; for it proves thought by thinking, just as we prove motion by walking. All thought is an undefinable something, not to be derived from the combination of chemical elements. Even the materialistic explanation of the world, moreover, certainly implies that the creature of mere sensation feels the need of explaining something or other; which is a contradiction.

This explanation however, by the very fact that it has recourse to science, is obliged to take cognisance of more than the mere appearance, at least as regards the origin of the world. It is constrained to recognise that that which is before our eyes has not always been, that it is the product, the effect of a vast evolution. This earth upon which we tread has been formed stratum upon stratum, as the result of geologic convulsions which have successively fused, flooded, wrested, and fashioned it to what it is. In each of these strata lie embedded

petrified fauna and flora, which bear the date of revolutions accomplished in remote ages, and the relics of which are like archæological medals. The sea which bathes our coasts without overwhelming them, the air which we breathe, have only arrived at this state of relative equilibrium after periods of wild commotion when the world was but chaos. The world may take up the words which a French poet puts into the mouth of Time,—

"*Vous ne m'avez connu que vieux.*"

Science has shown us also that the starry vault, which seems the very image of stability, has its history, and that its formation, though we put it back myriads of years, was the work of successive periods. In the Introduction to his treatise, "Les Époques de la Nature,"—an exceedingly ingenious work in which, with the intuition of genius, he anticipates some of the methods of modern geology,—Buffon says: "As in civil history, we consult archives, examine medals, and decipher ancient inscriptions, in order to determine the epochs of human revolutions and to verify the dates of great historical events; so in natural history, we must search the archives of the world, excavate the monuments of past ages of the earth, put together the fragments, and gather into one body of evidence all the indications of physical changes which can fix for us the different epochs of nature. Thus only can we fix certain points in the immensity of space, and place a few milestones of time along the eternal highway."[1]

The world in which we live points us back to an earlier state. It is after all only an effect. Its present constitution is the result of a process of development as stupendous in the forces it has called into play, as in the length of time required for its accomplishment. This development is no longer a mystery to us, for the forces which produced it are still in operation before our eyes, though they have lost much of their

[1] "Œuvres," Buffon, vol. v., p. 1.

intensity, and the changes which they bring about rarely amount to cataclysms like those of the great geologic eras. The soil of our planet is partially modified by influences which we recognise as of daily occurrence. Earthquakes repeatedly break up the crust of the earth. Volcanic eruptions pour upon its surface, under the form of lava, the substances which are amalgamated in a state of incandescence in the earth's centre. Sediments or deposits from water form the alluvial lands. The sea frets its shores and changes their outlines. Madrepores and polypi, by their slow cumulative labour, rear the coral islands of the ocean. Finally, the atmosphere has a most powerful chemical action. Allow to all these agents of geologic transformations an indefinite length of time to produce their effects; suppose them at their maximum of power, and the great evolutions of our planet are explained. It matters little whether their operation takes the form of sudden and violent crises or of progressive development, or whether the one alternates with the other; the cause is in any case adequate to the effect. Humboldt says in his "Cosmos," "Movements in the crust of the earth, sometimes sudden and in shocks, sometimes continuous and almost imperceptible, alter, in the course of centuries, the relative elevation of the land and sea and the configuration of the land beneath the ocean; while at the same time, communications are formed between the interior of the earth and the atmosphere, either through temporary clefts or more permanent openings. Molten masses, issuing from unknown depths, flow in narrow streams down the declivities of mountains, sometimes with an impetuous and sometimes with a slow and gentle motion, until the fiery subterranean fount is dry, and the lava solidifies under a crust which it has itself formed. We thus see new rocks produced under our eyes, whilst those of earlier formation are altered by the influence of heat, rarely in immediate contact, more often in proximity. . . . These processes of formation and stratification going on before our eyes, in modes so different,—and

the disruption, flexure, and elevation of rocks and strata by mutual pressure and by the agency of volcanic forces,—lead the thoughtful observer, by simple analogies, to compare the present with the past, to combine actual phenomena, to generalise, and to amplify in thought the extent and intensity of the forces now in operation." [1]

In this history of our planet (which it is not our present purpose to retrace, for our work does not pretend to the fulness and exactness of a strictly scientific exposition) we wish only to note one point, namely, the degree to which this geologic drama of storm and cataclysm, destruction and reconstruction, in which the cosmical forces seem to come into fortuitous collision, is really governed by inflexible laws. We have first of all only a globe of fire; how is its solid crust to be formed? By the application of a well-known law. Its heat disperses itself in the planetary space; the effect of this is to produce a solidification of its surface as fine as the bloom on a peach. This is primitive granite. To complete its formation it needs water and air. The cooling caused by the evaporation produces in the atmosphere the degree of temperature needed for the combination of oxygen and hydrogen, for above two thousand degrees centigrade they would not have the requisite affinity. We now have in air and water, the great cosmic agents which will come into operation and together give to our planet its ultimate form. The atmospheric vapour which has condensed into water, will again become vapour under the influence of a temperature still very high, but only to return immediately to the liquid state. Thus will be formed a dome of thick clouds charged with electricity, receiving no light but that of the lightning which is about to rend it. The waters being to put in motion the deposits of the fine coating of granite; they crumble and wear them away and the first stratifications or deposits of earth are formed in layers. From the burning entrails of the volcanic rocks the igneous floods pour

[1] "Cosmos," Humboldt, vol. i., pp. 146, 147.

forth; and thus the limestone is formed. Limestone is elsewhere deposited in deep sea beds.

The sea covers the whole planet. Thus the fauna is entirely rudimentary and aquatic, destitute of the organ of sight, which would be useless to it. The islands emerge; the fauna becomes richer, fishes appear. At the close of the primary period, the mountains appear. The primitive flora imbedded in the soil, there stores up heat under the form of carbon. In the secondary period, we have a great development of the animal kingdom; the saurians and marsupials appear. The tertiary period produces the large animals. The quarternary gives to the planet its present conditions of existence.

How closely the whole of this evolution harmonises, even in detail, with the laws of physics and of chemistry, is brought out very clearly in M. Daubrée's learned book on experimental geology.[1] We find here more than the grouping of facts and the deduction of their consequences. The author gives us the brilliant experiments by which he repeated, under his own eyes, the operations of the cosmic forces which by their combined action have formed the strata of our earth. He reproduced on a small scale a number of geological phenomena, some chemical and physical, others mechanical; thus he has thrown new light on the history of metallic deposits, on the formation of crystalline, metamorphic, and eruptive rocks; on clefts and chasms in the earth, and on the origin of the slaty cleavage of rocks. By this mode of investigation he has obtained demonstrative proof of the chemical, physical, and mineralogical transformations comprised under the name of metamorphism which play so important a part in the history of the earth. We can only refer the reader to his work for the detailed account of these experiments, which show with admirable clearness how completely even the most inexplicable and apparently fortuitous phenomena are governed by the general laws of nature. One of the most interesting parts of his

[1] "Études Synthétiques de Géologie Expérimentale." A. Daubrée, 1879.

book is that devoted to aërolites and meteors, which are, as is well-known, agglomerated fragments of sidereal matter. Chemical analysis has shown that none of the simple bodies composing these aërolites are foreign to our globe. In this, then, we have a new proof of the link which binds our planet to the solar and sidereal system. The composition of these meteoric masses, further, teaches us that the heavenly bodies have passed or are passing through chemical evolutions analogous to those of the lower strata of our planet, and that they have been subject to the action of heat equally intense.[1]

We have thus in our soil, not merely the chronological marks of the various phases of its formation, but also the palpable proof of its cosmic origin, and, as it were, fragments of the chain which binds it to the general system of the universe.

We are carried beyond itself and far beyond its earliest geological crises, to the time when it was still a part of the sidereal mass from which it has since been detached. Thus we find confirmation of the great hypothesis of Laplace (of which Kant also had a presentiment), as to the origin of our planet and of the sidereal system of which it forms a part. This hypothesis, which there is everything to support, gives a new lustre to the rational order which presided over the genesis of the world itself,' before setting its seal, as it subsequently did, on all its manifold developments of life and being.

It is enough for our purpose to give a rapid glance at this general hypothesis, which is rapidly becoming a certainty. According to Laplace, the earth originally formed, with the whole solar system, part of a nebula, either in a fluid or gaseous state. As the result of the first condensation, it became detached and received an impulse of gravitation round the sun and rotation on its own axis. The sidereal system of which it formed part, would also turn around a luminous centre, in harmony with the same laws. This luminous centre probably

[1] "La Géologie Expérimentale." A. Daubrée.

depends on another and still vaster centre. All the sidereal masses obey the same laws, the laws formulated by Kepler and Newton. Thus harmony reigns in the immense spaces where the sidereal matter revolves in vast masses. Mechanics teaches us that every liquid body, subject to the laws of gravitation, takes a spheroidal form, and that if it is subject to the laws of rotation, it becomes by the action of the centrifugal force, flattened at the poles and protuberant at the equator. This law has been confirmed by experiment on the smallest scale, thus establishing its universality. M. Plateau, a physicist, succeeded in isolating a little bubble of oil and making it rotate on itself. The same flattening of the poles and protuberance at the equator took place, and a few tiny particles of the oil being detached, they formed a satellite corresponding to our moon. "The celestial bodies, suns or planets, comets or satellites," says M. Quatrefages, in his able book on the human species, "appear to be nothing more than the molecules of a great whole filling immensity. All, whether gaseous or solid, dark or luminous, incandescent or condensed, move in courses of the same kind, and obey the laws discovered by Kepler."[1] The law of gravitation, which governs the world, is found at work in the tiniest grain of sand, as are also the other laws which regulate physico-chemical phenomena. These were for a long time ascribed to distinct forces, known as electricity, heat, magnetism. We are now learning more and more to recognise their original unity, as science tends to trace them all to undulations of the ether, the nature of which is still entirely unknown. The attempt to identify these physico-chemical forces with gravitation, is still far from conclusive. "However this may be, the physico-chemical phenomena, like those caused by gravitation, are subject to invariable laws, and always produce the same results under the same conditions. All the combinations of chemistry are mathematically regulated. The difference of

[1] "De l'Espèce Humaine," Quatrefages, p. 3.

weight in the combined elements modifies in the same proportion the combinations themselves."[1]

We find then absolute regularity governing matter, and subjecting it to fixed laws, whether it exist in a nebulous form, diffusing itself through vast spaces; or in the form of those stars whose splendour dazzles us and whose movements are more exactly regulated than those of the most perfect clock; or in the tiny bubble of oil performing its motion of gravitation and rotation. The stone thrown by the hand of a child, obeys these laws no less than the myriads of molecules which combine under the operation of the laws of physics and chemistry. Every result is according to weight and measure, so that science can follow and determine the march of the heavens, can predict the appearance of the most distant planet, and foretell the return of the comet which seems so suddenly to sweep the heavens with its train of fire We can well understand how, as he contemplated this majestic regularity of the sidereal world, the old Eastern sage was filled with adoring wonder, and that he took these stars to be a celestial choir glorifying the mysterious and powerful Being whose wisdom they displayed. This living geometry, these mathematics of the empyrean, seemed divine to Pythagoras. Numbers, dry and abstract to us, were to him the most suggestive symbol, because they made manifest the principle of order in the universe Thus the movement of the spheres brought to him the echo of a celestial symphony, a triumphal hymn to the glory of the Divine Wisdom which had wrought all the diversity of elemental things into one great unbroken harmony.

We have traced the same harmony in the atom as in the star; its molecules group themselves, obeying laws as certain and invariable as those which trace the orbits of the planets. There is not a particle of matter, however great, however small, which escapes these laws. We may well feel ourselves,

[1] "De l'Espèce Humaine," Quatrefages, p. 3.

like Pascal, overwhelmed alike before the infinitely great in the boundless immensity of space, and the infinitely little in the tiny animalcule; but thought raises its head as it recognises, from the lowest to the highest, law—that is order, harmony, that mind one spark of which makes man feel himself greater than the whole material universe. In his work on "Theism," Professor Flint says: "The physical universe has, perhaps, no more general characteristic than this,—its laws are mathematical relations. . . . If we are to give any credit to science, there can be no doubt about the weights and measures and numbers. This question, then, is alone left. Could anything else than intelligence thus weigh, measure, and number? Could mere matter know the abstrusest properties of space and time and number, so as to obey them in the wondrous way it does? Could what has taken so much mathematical knowledge and research to apprehend, have originated with what was wholly ignorant of all quantitative relations? . . . The belief in a Divine Creator is alone capable of rendering rational the fact that mathematical truths are realised in the material world."[1]

We shall see presently what weight is to be attached to the objections to this primary conclusion, which is derived from the simple fact of the universality of the laws which govern the sidereal world and physico-chemical phenomena.[2]

[1] "Theism," Robert Flint, pp. 136, 137.

[2] Wurtz's learned book upon the Atomic Theory sufficiently shows how far the ultimate particles of matter are governed in all their combinations by invariable laws. The theory or hypothesis of chemical atoms, of which Dalton was the originator, and which Wurtz has developed and confirmed by his extensive and conclusive researches, represents compound bodies as formed by the grouping of atoms in fixed number, and possessing weights relatively various, but fixed in each case (p. 21). The atomic weights fixed by Dalton, were true proportional numbers; they represented the proportions according to which bodies combine, and which are expressed by the relative weights of their smaller particles. We thus obtain a true atomic notation. Atomicity is distinguished from affinity, in that it expresses the saturating capacity of atoms as a property inherent in their

II. The Formative Power in the various Kingdoms of Nature.

Thought, mind, is not all that we recognise in the regularity and universality of the laws of Nature; we also trace power.

We have to account for the first setting in motion, if we may so speak, of this great development of the universe which has emerged from its primitive nebulous state. We can go no further back to obtain an explanation of the world, or at least

nature, while "affinity is the force of combination, the chemical energy determining the intensity and the direction of chemical reactions." The deductions as to the nature of matter itself which M. Wurtz draws from the atomic theory, are of great interest; "Atoms," he says "are not material points; they possess a sensible dimension, and doubtless a fixed form; they differ in their relative weights and in the motions with which they are animated. They are indestructible and indivisible by physical and chemical forces, for which they act, in some manner, as points of application. The diversity of matter results from primordial differences, perpetually existing in the very essence of these atoms, and in the qualities which are the manifestation of them. Atoms attract each other, and thus atomic attraction is affinity. It is doubtless a form of universal attraction, but it differs from it in that, if it is obedient to the influence of mass, it depends also on the quality of the atoms. Affinity is elective, as has been said for a hundred years. It gives rise to aggregations of atoms, to molecules and chemical combinations. In the latter, the atoms are no longer free in their motions; they execute their motions in a kind of co-ordinated manner, and constitute a system in which everything is solid and in which they are under control" (pp. 308, 309). Wurtz refers to Helmholtz's experiments and Thomson's speculations as to "the vortex motions which would exist in a perfect fluid free from all friction. . . . A fluid fills all space, and what we call matter are portions of this fluid which are animated with vortex motion. There are innumerable legions of very small fractions or portions, but each of these portions is perfectly limited, distinct from the entire mass, and distinct from all others, not only in its own substance, but in its mass and its mode of motion—qualities which it will preserve for ever. These portions are atoms. In the perfect medium which contains them all, none of them can change or disappear, none of them can be formed spontaneously. Everywhere atoms of the same kind are constituted after the same fashion and are endowed with the same properties" (pp. 328, 329).

of the movement of things which has produced our planetary system. It remains for us to discover how this movement originated; how the nebulous mass came to undergo its first process of condensation, and thus inaugurated the series of motions to which we have referred. It does not follow, because the law of motion is in accordance with the theories of Kepler and Newton, that its action is spontaneous. The primitive nebula appears first in a uniform gaseous state. It cannot receive any impetus from without, for to it there is no within or without. The fluid fills infinite space. The law of gravitation cannot come into play while matter is equally diffused through all space. Chemical combinations are impossible, for the gas is in the nebulous state of extreme diffusion. We cannot speak of a lowering of the temperature, for then we should need to know whither the heat escaped. The naturalistic explanation can go no further; the nebulous stage is its extreme point. In order that the *processus* of the universe may begin, we must have a force which comes from above itself, or which is, in any case, outside of itself. We find ourselves thus brought back to Aristotle's prime motor.[1]

[1] On this question we would refer the reader to M. Hirn de Colmar's interesting works, "La Vie Future et la Science Moderne," "Réfutation Scientifique de Matérialisme." Starting with an analysis of the phenomenon of attraction, the learned author shows that it cannot be explained by the mere motion of molecules of matter interposed between two bodies which attract them, and that we are compelled to admit an invisible force which cannot be resolved into atoms. With regard to the origin of things M. Hirn, taking his stand upon the principle that nothing is lost in the universe, which is like a closed vessel in which every force subsists in its integrity through all changes of phase, concludes that our world, or the system of the world, could not return to its primitive nebulosity without an inadmissible loss of force; and consequently it is of necessity that this nebulosity, or state of matter in extreme diffusion, must have had a beginning, for if it had been preceded by evolutions similar to those which produced our world, there would have been a loss of the forces brought into play by such an evolution. The nebula itself, then, must be traced to a creative act which produced it with the principles of its future development

We have so far restricted ourselves to the domain of purely mechanical existence. But it is not enough for us to consider our planet simply in its astronomical aspect; we must also study the abundant and manifold life which it exhibits, and draw such conclusions as it may logically supply.

We shall pass rapidly over the mineral kingdom because it is subject to the same laws as the sidereal. Here also we find regularity, fixity, law. The atoms which, by combining in certain modes, produce the crystal with its regular invariable forms, are not moved by capricious chance; they reproduce a pattern, they are cast into an ideal mould. We find in their combination, the living geometry which we have seen at work in the planetary system. Intelligence, then, which is not a property of matter and cannot be identified with motion, governs also these combinations of the lower world. The crystal is no more the product of chance than the universe In its way it is a microcosm.

While the inorganic world exhibits a plan, it is not, however, its own end; it stands in relation to a higher world, to which it furnishes the basis of existence, and for whose existence it prepares the materials. This is the organic world, which is in its turn subordinate to a sphere higher than itself, and yet is not independent of it—the world of mind, of thought, the intellectual and moral world. We shall determine presently the specific characters of these higher worlds, so distinct and yet so closely allied. That which for the moment we wish to show, is the fact of their intimate relation and interdependence. And first, it is incontestable that these three worlds, or three spheres of being on our planet, cannot be

virtually latent in it. "The substances by means of which the worlds have been formed, were created by an Almighty Being, who was before all that existed." To such a Being, existing by His proper nature, time cannot be as it is to us—a period; it can only be a mode. We do not know why the learned author has complicated the discussion by a dissertation on miracles which takes us on to quite other ground.

confounded. Inorganic can never be placed on a par with organic life. "Inorganic bodies, under favourable conditions, last an indefinite length of time without receiving anything from or imparting anything to the world around them. Organised beings, in whatever condition they are placed, last only a certain period; and during this time of existence they are constantly undergoing a loss of substance which they repair from materials outside themselves. As M. Naudin has well said, a crystal is like one of those regular piles of shot which we see in our arsenals. It increases only from without, as the pile grows when the artilleryman adds a new layer of shot. It is precisely the opposite with organised beings."[1] Above the organised world is the higher sphere of thought and will. This distinction of the three worlds does not ignore their correlation. The organic world cannot do without the inorganic. "Living beings have weight, and are thus amenable to gravitation; they are the subjects of numerous and various physico-chemical phenomena, without which they could not exist. Life is not in antagonism with the brute forces; it controls and governs their operation by its laws."[2] We divide the organic world into vegetable and animal, and it is certain that the latter cannot perform its principal functions without the aid of the former. Lastly, no one in our day will dispute that thought cannot go on without the brain, that is to say, without the organism which supplies it with a delicate instrument. It follows from these general considerations of the modes and degrees of existence upon our planet, that the lower serves the higher, that each is an end to that which precedes it, and a means to that which follows; consequently that there is a general design in the disposition of the world, a linking together of all forms of life in such a way as to direct and impel all in a common direction.

[1] "L'Espèce Humaine," Quatrefages, p. 2.
[2] *Ibid.*, p 8.

The purpose which is thus manifest in the whole, is sustained in detail by such evidence as cannot be rejected without disregarding all the analogies which appeal most directly and strongly to the mind. We know that when we have brought together the materials for building a house—wood, stone, brick, mortar—we have an end in view; and that this end has been present in our minds as the determining cause of all our efforts, the true final cause, the only motive which can explain this assemblage of a heap of materials which have no natural tendency to unite or combine. Every determination of the present by the future has this character of purpose or design. We understand indeed that there may be no design or end in the production of a phenomenon which is the natural and simple result of antecedent causes. The production of the storm by the disengagement of electricity is fully explained by the previous state of the atmosphere. But it is otherwise when phenomena of different orders are combined with a view to producing an ulterior effect which they never would have produced by themselves, any more than the wood, stone, and mortar would have built a house if they had not been made use of in a certain way for that express purpose. Matter is all in the present; it has nothing to do with prevision of the future, with that which is not yet, that which exists only as an ideal plan—the opposite, that is to say, of that which is. As soon as plan, design, prevision of the future appear, we enter the region of purpose.[1] This look into the future, this plan which combines phenomena in themselves divergent in order to obtain a future result, the realisation of which is pursued by appropriate means, we certainly find in nature. M. Janet says, "When a combination of phenomena can be explained simply by a reference to antecedent conditions, there is nothing more in it than the relation of cause and effect. But when the combination, in order to become intelligible, must be referred

[1] See M. Janet's full, luminous, and conclusive arguments on purpose and design, in his book, "Les Causes Finales," p. 42.

not only to its antecedent conditions but to its future results, the simple relation of cause and effect no longer suffices; it is transformed into the relation of means to an end." [1]

We shall content ourselves with giving in conclusion a few examples taken from organic life, in which, as Kant says, everything is reciprocally an end and a means. Organised existence constitutes, as Cuvier has well said, in relation to his famous law of organic correlation, a great whole, a system all the parts of which correspond and combine by reciprocal reaction in one definitive result. This is what Claude Bernard calls the ruling principle of organic life, that which alone explains its formation and constitution on a definite plan, in which all the elements are arranged in due order and combined so as to realise a preconceived type. "That which characterises the living machine," says the great physiologist, "is not the nature of its physico-chemical properties, however complicated, but the creation of the machine itself which goes on before our eyes under conditions proper to it, and according to a definite idea which expresses the nature of the living being and the very essence of life. That which is peculiar to the domain of life, which does not belong to physics or chemistry, or any other branch of natural science, is this ruling principle of vital evolution. In every living germ there is a creative idea which develops and manifests itself in the organisation. Through all its existence, the living being remains under the influence of this same vital creative force. Here, as everywhere, this is the originating and governing principle of the whole." [2]

This purposive adaptation, which is the reason and condition of the existence of the living organism, is as manifest in its generation as in its development and ultimate constitution. Nothing shows more clearly the combination of phenomena with a view to a future result (which is the strongest evidence of

[1] "Les Causes Finales," Janet, p. 42.

[2] "Introduction à l'Étude de la Médecine Expérimentale," Claude Bernard, p. 163.

design), than the difference of the sexes. This difference cannot be absolutely explained by any necessity of organisation for the male or female, considered separately. It has no meaning except in view of the future act which is to unite them for a brief moment, and so provide for the preservation of the species. Now this union is only possible if there is a perfect conformity of form and structure, a previous adaptation. The physical constitution, whether of the male or the female, in that which is peculiar to it, is of no consequence to their present state. Their organic adaptation is arranged with a view to the future. The prevision of this future then determined it; the object and the design are evident. The same conclusion presses itself upon us if we contemplate the development of embryonic life; the organs of the senses, which are only to come into use in the future, are prepared in the mother's womb, and are adapted by anticipation to the sphere of their exercise. The same prevision is traceable in the phenomena of lactation in the mammalia. The female, before she is a mother, possesses organs peculiarly adapted for the process of suckling, so that the milk can be conveyed to the breasts as soon as required. The nutritive organs existed before the birth of the young, and were so arranged as only to come into operation after their birth, and to respond to the instinct which finds in their organisation the means of satisfying itself. We must refer the reader to the works of specialists for a description of the wonderful adaptation of the organs of the various senses to the purposes for which they are required. It is absurd to speak of chance, of happy coincidences, in reference, for example, to such an organ as the eye, which is the most perfect and delicate optical apparatus, adapting itself to every diversity of environment, in a way which cannot possibly be explained by the influence of the environment itself. Thus, in the insects and crustaceans, the optic mechanism, by virtue of its multiple facets and refracting cones, gives multiple images; it *isolates* the visual rays. This effect is produced by a marvel-

lous arrangement of all the parts, which could never be the result of the fortuitous concurrence of a thousand blind causes. In the higher animals the mechanism is *integrating;* the visual rays converge to form a single image. The globe of the eye, with its lens, is in fact a *camera obscura.*

We find the same adaptation in the other organs of the senses, with the same modifications for varying environment. The organ of hearing differs in the case of animals which live in the open air and those that inhabit the sea depths.

This is a rule to which there are no exceptions. No purely physical or mechanical cause will account for so perfect an adaptation of the structure of the ear to its various uses. The respiratory organs differ, in like manner, according as the animal is intended to live in air or water. In the one case we find the apparatus of the gills, in the other, organs of pulmonary respiration.

The structure of the heart, which is a mechanism at once so simple in principle and so complex in the arrangement of its different parts, so wonderfully contrived and admirably adapted for its great functions, is inconceivable except on the theory of an intelligent design. Apart from this, we should need to suppose that a physical cause, acting according to given laws, hit upon, without seeking it, the system best of all adapted for the circulation of the blood, while other causes, equally blind, determined the production of the blood and made it flow, by virtue of other laws, in the most appropriate channels.[1] The admirable harmony of this whole system, and the correlation of its parts, completes the irrefragable demonstration of design and adaptation in the living organism.

We might draw the same conclusions from that spontaneous industry which we call instinct; but we reserve all that relates to this subject for the part of our book in which we shall treat of man, and show the distinction between instinct and intelligence.

[1] "Les Causes Finales," Janet, p. 74.

In short, the living organism appears to us the very embodiment of the great idea of design; its cause is in its end, for everything about it tends to that end, and is disposed with a view to its realisation. It follows that its *raison d'être* is this ruling idea. The idea is first formed, and everything in the living being is prepared and adapted for its realisation. That is to say, the living being had a virtual and potential before its real existence, just as the building constructed by the architect exists first in his plan, in view of which he gathers together the various materials that will be required and combines them in such a way that they assume a certain form which they would never have taken if left to themselves. That which is true of the house is true of every organised being. It is a building upon a plan, according to a predetermined idea. This is true of the oak, which existed virtually and potentially in the acorn. This is true of the animal, which existed virtually and potentially in its antenatal cell. This is true of the vast edifice of the world, which on this account is called a *cosmos*, a harmonious whole, combining, in accordance with one great plan, myriads of different elements and substances. Everywhere the virtual precedes the actual and determines it; this is its only explanation. It follows that the principle, the *raison d'être*, of the reality cannot be grasped by sensation, which can only apprehend the actual, never the possible. "There are, says M. Charles Secrétan, in nature and in life, real things which cannot be seen. Nay more, these invisible realities are the most essential of all. We do not see the end which a man proposes to himself in his conduct, and yet all his conduct is determined by some end. We do not see the man in the child, nor the tree in the seed, but we know that they are there, and but for this faculty of divination, we should know nothing either of the seed or the child. The notions of ideas, of an end, of power, are not objectively present to the senses, and yet they are absolutely indispensable to guide us in the chaos of our sensations and to give us any experimental acquaintance

with things. So is it with the idea of cause which runs through all nature." [1]

Aristotle has set the seal of his genius on this theory of potentiality, and draws from it, with rigorous logic, the reasonable conclusion that this ruling and formative principle of the living being, this potentiality, which develops itself in his organism, implies mind, thought, as its origin and antecedent; and this thought cannot be itself also a mere potentiality (or the difficulty of the first cause would still remain), but "has a priority of subsistence . . . energy, activity."

"Everything that is being produced, advances towards a first principle and an end; for the final cause is a first principle, and the generation or production is on account of the end. But energy is an end, and on account of this is potentiality assumed, for not in order that they may have the power of vision do animals see; but they have the power of vision that they may see. . . . Moreover matter subsists in potentiality because it may advance onwards to form; but when, at least it subsists in energy, then doth it subsist in form. In like manner also is it the case with other things and those of which the end is motion. . . . Wherefore it is evident that substance and form are each of them a certain energy. And therefore, according to this reasoning, it is evident that in substance, energy is prior to potentiality. And, as we have stated, one energy invariably is antecedent to another in time, up to that which is primarily and eternally the moving cause. But assuredly also in a more strict and important sense is energy prior to capacity, for the things that are eternal are in substance prior to the things that are perishable, yet nothing subsisting in potentiality is everlasting. . . . That therefore energy is a thing prior to potentiality and every alternative first principle, is evident." [2]

We are thus brought back to a first principle, always

[1] "Discours Laïques," Charles Secrétan, pp. 37, 38.
[2] "Metaphysics," Aristotle, Book VIII., ch. 8. Bohn's translation.

operating, always actual and living, from which proceed the potentialities or germs of particular beings.

This passage from the virtual to the actual, is the law of all particular beings, who thus only realise the end in view of which they exist. This end is at once their formal and final cause, that which forms and completes them. This end was contained in the initial thought from which all proceeded, but that thought itself was not subject to this law which makes the particular being pass from the virtual to the actual, else all would begin and end in potentiality. There would be no basis, no eternal principle of being; universal existence would rest on a mere possibility, which would not find in itself the force, the energy to arrive at being, either in the whole or in the parts. Hence Aristotle says that the germs point us back to a higher and already complete being. The primary substance is not the germ; it is the complete being which produces the germ. The embryo, which potentially contains the entire man, presupposes the adult man who has produced it; but this man himself is only a secondary cause. We must go back to the first cause, perfect and eternal, which has imparted to every germ, to every potential existence, its own thought, and the vital energy capable of developing it according to its proper plan. In order to conceive and realise this plan, it was necessary that this first cause should be living and actual. We find a design, a thought in a preparatory state, in every being. But this design requires as its formal and final cause, a perfect, complete, living, thought, in a word—God. This is the substance of Aristotle's theory, and in the lapse of so many centuries it has not grown antiquated.

The God of Aristotle is a pure intelligence, contemplating Himself, moving the world by the attraction of His own excellence. This idealism, sublime in so many aspects, which fills the twelfth book of the "Metaphysics," had as its counterpart the eternity of matter. It does not give us an exhaustive idea of the great First Cause, whose wisdom appears in the

marks of design everywhere discernible in the individual forms of life and in the harmony of a world governed throughout by the principle of finality. This First Cause is not only intelligent, it is powerful. It has not only conceived its plan, it has realised it; and its creative intervention is as evident to us as its wisdom. In fact, the different degrees of existence which we recognise in the world are not only perfectly distinct while forming harmonious parts of one system, but they are so distinct that there is no transition from one to another. Life has never been known to rise from the mineral to the vegetable kingdom; no combination of chemical and physical forces has produced any such result. Skilful chemists have been able to build up certain substances which enter into the composition of living things, but the actual composition of life, that which gives it its peculiar character, has never been elaborated in any of their retorts. Nor has it been produced in the vast alembics of nature. Science is further than ever from confirming the hypothesis of spontaneous generation, even though that hypothesis is demanded by the whole of the Transformist School. Nothing has been able to controvert M. Pasteur's conclusive experiments, which resulted in the discovery of a germ even in the cases which seemed most favourable to the supposition of spontaneous generation. We have on this point testimony which cannot be called in question. "Generation, which is the order of creation of organic beings," says M. Claude Bernard, "is justly regarded as the most mysterious function of physiology. It has been observed in all ages that there is a filiation between living beings, and for the most part they are clearly produced by pairing. There are cases, however, in which this filiation is not apparent, and these were supposed to be cases of spontaneous generation, that is to say without parentage. This very old question has been taken up again recently and made the subject of fresh inquiry. In France spontaneous generation has been rejected by various specialists, but particularly by M. Pasteur. It has, on the other hand,

been accepted by some naturalists, and specially by M. Pouchet, who maintains the hypothesis of spontaneous ovulation. M. Pouchet has tried to show that there is no spontaneous generation of the adult being, but generation of its egg or of its germ. This view appears to me wholly inadmissible, even as hypothesis. I consider that the egg represents a sort of organic form which contains in itself the conditions necessary to the evolution of an organic being, from the very fact that it proceeds from one. The egg is not an egg because it possesses a virtual power communicated to it by one or more previous evolutions of which it retains some sort of memory. It is this initial direction which is properly speaking only the manifestation of a more or less marked *atavism* which can never in my opinion be the result of spontaneous forces acting *ab initio.* It implies of necessity an hereditary influence. I fail to conceive that a cell formed spontaneously and without parents could have any evolution, since it has had no anterior state. Whatever may be the hypothesis, the experiments which were regarded as proving spontaneous generation, were for the most part defective. M. Pasteur has had the merit of throwing light on the problem of spontaneous generation, by showing how inadequate these experiments were, and by introducing greater precision into the subject. He has shown that the air is the vehicle of a multitude of germs of living beings."[1]

If the appearance of life is an entirely new and irreducible fact, which there is no natural antecedent to explain, the appearance of consciousness, of thought, of the moral life, the fuller study of which we reserve to a later part of this work, is no less inexplicable, and implies a fresh intervention of the highest cause. We gather then from this rapid glance at the visible world, that everything in it implies a cause at once intelligent and powerful. In a word, it is true, as Bossuet has said, "that everything which shows order, proportions well adapted, and means fitted to produce certain

[1] "Rapport de M. Claude Bernard à l'Académie de Médecine."

effects, shows also an express end, and consequently a design formed, a governing intelligence and perfect art." [1] The universe bears emphatic witness to this "governing intelligence, this perfect art," alike in the infinitely great and the infinitely little, in the atom and in the planet. All obey the same mathematical, physical, or chemical laws; the science of numbers,—the very opposite of chance,—rules and regulates their movements and their affinities. When the living organism appears, it reveals to us a yet higher art, marvellously skilful in combining the most various phenomena, in view of a foreseen result. This plan, this design, which is apparent if we carefully examine a cell or the smallest organic body, is expressed with equal clearness and sublimity in the final harmonies of all the parts of this great whole which we call the world, by which we mean order realised. This harmony not only satisfies our reason, it fills us with admiration, which is one of our purest joys because the most disinterested. Beauty manifests itself to us as a higher end. The sense of beauty arises from a mysterious correspondence between that ideal type of the beautiful which we have within us, and the spectacle of things in which we find our ideas of harmony or grandeur, grace or majesty, realised. There is something more in beauty than the simple grouping of atoms; their æsthetic disposition is not a mere movement, it is a thought. The impression of beauty produced upon us by this world, so full of variety, so rich in contrasts, implies as much art as a symphony of Beethoven, which resolves the discord of sounds into a magnificent harmony conveying to the receptive soul the sublime thought of the master. Thus, when the inspired singer of Israel exclaims that the heavens declare the glory of God, or when the great apostle Paul declares that the glory of the invisible God is clearly seen in the things which are made; we feel that they are right. They only express in the language of poetic rapture that fundamental principle of our reason—the principle of

[1] "De la Connaissance de Dieu et de Soi-même," Bossuet, Book I.

causation, which will not allow that the greater can come from the less, but which demands an exact proportion between the cause and its effects. If they are wrong, reason itself is wrong.

We cannot better conclude these considerations than by quoting the words in which Aristotle closes his review of the ancient philosophies:—

"But after these philosophers, and after the assertion of principles of this sort,—as if on the grounds of their insufficiency to generate the nature of entities—again constrained by actual truth, as we have said, they investigated the principle next following, in the way of a consequence. For of the excellent and beautiful order of some things, and of the production of others of the entities, it is not natural to assign, perhaps, either earth or anything of this kind as a cause; nor is it natural that they should think that it is; nor was it seemly, on the other hand, to attribute so important a part to chance and fortune.

"Now, whosoever affirmed mind, as in animals so also in nature, to be the cause of the system of the world, and of the entire harmony of it; the same appeared, as it were, of sober temperament, in comparison with the vain theorists of the earlier ages. Indeed, then, we know that Anaxagoras openly adopted these principles. Hermotimus of Clazomenæ, however, has the credit assigned him of having put forward a similar theory of causation at an earlier period.

"Those indeed, therefore, who have entertained these opinions, have laid down as a first principle of entities at the same time, the cause of their orderly arrangement, with such a one as that of the origin of motion in things."[1]

[1] "Metaphysics," Aristotle, Book I., c. iii. Bohn's translation.

CHAPTER II.

OLDER OBJECTIONS TO THE THEORY OF CAUSATION.

In speaking of the principles of casuation, we have so far contented ourselves with formulating the conclusion as to the origin of the world to which our minds were led by the spectacle and the history of the world; and this conclusion is theism. We know well how strongly this is attacked in our day by the arguments of modern science. It is constantly declared to be opposed to the most positive results of scientific inquiry. It is evident that if this is really so, theism must be abandoned; for any explanation which is contrary to proved facts, is of necessity false.

It remains for us to show that this contradiction between theism and science has no real existence, if only science keeps within its own domain, and is content to affirm that which it is competent to demonstrate by experiment. We set aside then from the discussion all that is theory and hypothesis alone.

I. Atomism.

The simplest and most widespread form of materialism is still the atomism of Democritus and Epicurus. This is the subject of Büchner's book on Force and Matter, and he dwells largely on the philosophy of Lefèvre. From the admirable exposition given by Lange, of the system of Democritus,[1] it is clear to how great an extent the philosopher of Abdera is the initiator of materialism in its most popular form. Everything

[1] "History of Materialism." Lange.

is traced back to atoms and vacuous space; the atoms combine indefinitely according to properties inherent in them, which Büchner calls forces. These combinations, governed by mechanical and physico-chemical laws, produce all the variety of worlds and beings, without any directing thought revealing a design and pursuing an end. Because there are laws, it is concluded that there is no lawgiver, and that all effects are to be traced to the energy inherent in matter. The harmony of things is the natural and necessary result of this energy, and is produced without any intervention, merely by the motion of atoms obeying the laws of their nature.

To this theory we have one objection to make at the outset. What is the origin of that notion of the harmony of things which is recognised at least as their result? It comes from that particular grouping of atoms in the brain which produces the human mind. Here, there is not simply the vortex of molecules obeying its internal laws; there is the conception of those laws, the recognition of order in the universe. This is an entirely new phenomenon, without any analogy with that which precedes it. In this case, the atoms are not content with merely moving in accordance with their proper laws; by a new combination, they are conscious of their motion and of the laws which govern it. The mere fact of attempting an explanation of the world, even on the most absolutely materialistic basis, makes the being who attempts it pass the limits of the atomism, which he has declared to be absolute and universal. Democritus refutes his own theory by the very fact that he accounts for the existence of the world. Atomism recognised and explained, ceases to be atomism.

Further, to speak of harmony and order, is to apply to matter an idea not derived from sensation, for it implies the recognition of a certain relation between facts succeeding each other. Sensation perceives these facts one after the other; but something more than sensation is needed to connect them, and to form a conception of the whole, the parts of which

only are apprehended by the senses. This category of necessary order appertains to the reason. Lastly, it is idle to deny that there is design in the production and disposition of the things composing the universe. By whatever ingenious explanations we try to get rid of design, we are obliged to recognise it as a fact in the animal creation, which does not obey mere mechanical forces, and still more clearly in man who always adapts means to an end. It is from his own experience that he has derived this idea of design, of an end in view; and he attributes this characteristic, by a most natural and reasonable analogy, to the First Cause which he sees at work in the universe.

If we now return to the idea of law itself,—the physical law inherent in atoms,—we must admit that it is at least strange to use this as an argument against an intelligent First Cause. Büchner altogether confounds the idea of force with that of law. Matter he regards as inseparable from force; which amounts to saying that it has set itself in motion without a prime motor. This proposition appears to us the very reverse of obvious, for reasons already advanced. We have seen that it is impossible to explain how motion could have been at first spontaneously produced in the primitive nebula, which from its state of extreme diffusion escapes the action of gravitation. This primary force being wanting, all the others are wanting also. But supposing we admit that force may be inherent in matter,—that is, in the atom,—what right have we to take it for granted that it is a regulated or self-regulating force? By what right do we attribute to it the regularity and simplicity of a law? Each atom is to contain in itself the whole marvellous mechanical and physico-chemical legislation which governs the material world. The idea of matter implies nothing of this sort; it is either inert or diffused. Everything in the laws which govern it, bears the impress of intelligence; even their admirable simplicity, which is itself a law, and the law of economy, by which nature always contents

itself with that which is strictly necessary for producing its results. Nor have we to deal with mere abstractions. A natural law is not a mysterious entity, a sort of anonymous divinity. Law is in itself nothing else than the formula of the conditions of existence which we verify experimentally in nature. If these conditions are found to be permanent, they would imply a foregoing action by which they have been determined in such a way as to secure their continuance. Has it ever been found that an atom had this power of determining, not itself alone, but also all the other atoms with which it is related? For this determination of the conditions of existence, which we call law, can never be an isolated fact; it implies reciprocity, and consequently combination, prevision—that is to say, intelligence. Professor Flint says, "The existence of a law connecting and governing a class of phenomena, implies an intelligence by which the law is made. Laws, then, are not the cause of order, but its expression. They are the result of delicate adjustments. Chemical laws only exist because there are chemical elements endued with various affinities and forces, which balance each other and harmonise so as to produce the world. Laws produce nothing of themselves; it is the agents, acting according to the laws, which produce the effects. If these were not well balanced, disorder would be the result. The harmony of the world would never be produced by the law of gravitation alone.

We have not merely to do with atoms endowed with properties in virtue of which they act and react on each other; we have to account for a cosmos ordered and disposed. The atoms might act and interact for ever under the control of laws gravitational and physico-chemical; but if left to themselves they could never succeed in building up an ordered and organised universe. This conclusion is forced on us when we consider the vast variety of combinations and complexities which a universe involves. Even the famous apologue of the Iliad resulting from the fortuitous collocation of the letters

of the alphabet, does not represent to the full the absurdity of imagining a universe produced by the fortuitous concourse of atoms. We require a multitude of chances infinitely less probable even than this. It avails us nothing to fall back on the primordial nebula. Its evolution is equally unthinkable if no directing mind presided over its formation, over the analysis and synthesis of its elements, over its final equilibrium and order. The solar system could only have been evolved out of its nebulous state if the nebula possessed a certain size, mass, form, and constitution; if it was neither too rare nor too dense, neither too fluid nor too tenacious, if its atoms were all disposed in due relation to each other,—that is to say, only if the nebula was in reality as much a system of order as the worlds which have been developed from it.[1]

"The world subsists," says Janet, "by virtue of a mathematical law; but a mathematical law is absolutely indifferent to any result whatever. What does it matter to universal attraction, whether the world exists or not? Now it happens that this force, by which the solar system is produced, has in itself the elements of its overthrow. It happens that particles of matter, which can have no preference for one order or another, and which obey a law deaf and dumb as themselves, have found their equilibrium, and have assumed a form of stability which seems, as Arago says, the effect of a miracle. To suppose that such stability, such order, is the result of an accident which, at a given moment, has evolved order out of chaos and found the point of equilibrium between so many and such divergent forces, is neither more nor less than the doctrine of pure chance."[2] Looking at the laws of motion alone, there is no reason why the minute (or elementary) bodies should continue to group themselves in the same order, rather than in new combinations, or even why they should continue to group themselves at all.

[1] See "Theism," Robert Flint, pp. 187–192.

[2] "Causes Finales," Janet, p. 238.

II. Organicism.

The opponents of final causes, after having essayed to exclude them from the inorganic world, make the same attempt with regard to the organic world, in which they refuse indeed to recognise any specific character. They adopt the same line of argument in reference to both. They hold that there is no design in the inorganic world because it is subject to inflexible laws, as if law itself were not the expression of a directing mind. From the fact that the living creature has properties necessary to the fulfilment of its functions, they conclude that all is explained by these properties, which produce the organs and their functions, and that we have no right to look higher and to seek for a plan, a design, behind this determination of the natural life. The simple elements of which living creatures are composed do indeed possess certain properties or fixed modes of action. These elements, with their inherent properties, are developed from the cell by slow and progressive evolution. Thus are formed the organs whose functions are the simple manifestation of these properties. For example, the action of the heart, which is a muscle, arises from the contractile property common to all muscles. The circulation of the blood is caused by the nutritive and reparative qualities of the blood itself. The eye is not disposed with a view to seeing, but it sees because sight is the result of the particular disposition of its parts with the qualities proper to them.

To this theory, known as organicism, the following objections may be raised. First: The simple elements of which the living organism is composed are cells. Now we have already shown that the appearance of the cell, radically different as it is from inorganic matter, which is incapable either of growth or decay, cannot be explained on the theory of mere development. None of the chemical syntheses even of

M. Berthelot suffice to account for it.[1] We admit that he has succeeded in creating in his laboratory most of the proximate principles which matter contains, but these proximate principles are pure chemical products, and possess none of the characters of life. They are the results of analysis, oxidation, decomposition, recomposition to organic matter, but not organised matter itself. A proximate principle is not an organ, nor the rudiment of an organ, nor a being, nor an element of a being; it possesses no living form. "No chemist," says M. Berthelot, "can pretend to form in his laboratory a leaf, fruit, muscle, or organ." Organicism cannot then cross the impassable barrier of life. This is conclusive against its principle, for if it cannot explain the production of the living creature, it will be equally incapable of explaining its organisation.

Second.—The fact that the simple elements of organised bodies have certain properties, argues nothing against an intelligent cause. We utterly fail to comprehend why the demonstration of a law in things, should involve the negation of an originating and directing mind.

Third.—We deny that these properties alone suffice to explain the disposition of the organs. It is very convenient, for the sake of the argument, to reduce the admirable mechanism of the heart to the mere contractility of a muscle; but it is perfectly well known that there is no machine invented by science so ingenious and complicated. "Muscular contractility explains the contraction of the heart; but this general property, common to all the muscles, does not suffice to explain how and why the heart contracts in one particular way rather than in any other, or why it has assumed a certain configuration. The heart, as Claude Bernard has said, is essentially a living, moving machine, a force-pump designed to supply all the organs with a fluid which nourishes them. It is this complexity and this art in the configuration of the organ which is not explained by the modes of action or by the properties

[1] "La Synthèse Chimique." Berthelot.

of the simple elements, in the case of the heart, or of the digestive organs, or of the eye. To combine is to foresee, to reason, to think. [1]

Fourth.—In the living organism we have not only to consider each organ by itself, though this would suffice to prove the presence of combinations more wonderful than the most skilful mechanical contrivances of man's invention; but these various organs are all connected with each other and all tend to a common end to which each is subordinate, as the parts of a well-compacted whole. The higher we rise in the scale of life, the more manifest does it become that there is one great purpose which all the inferior parts of the organism help to subserve. "Thus," as M. Chauffard has said, "the ultimate purpose of being, that which is connected with the faculties of sensibility and of motion, reacts upon vegetable life, and orders and sustains that life in ways which assure the final result." [2] We ask whether the properties of the simple elements of the living organism are capable of producing such a harmony and hierarchy of functions? or whether, in order to such a manifestation, there must not be the mysterious, latent, but real, operation of that directing thought which is essentially the *quid proprium* of life, and by virtue of which we are raised far above the purely mechanical?

Fifth.—The life of the embryo alone suffices to prove that this adaptation to an end is not the mere result, the simple bringing into play of the properties of organised matter, for the presiding idea governs all the transformations of the germ. At the outset, all germs resemble each other, and yet each assumes a different development, which is carried on with perfect regularity. Neither physics nor chemistry explains their differences of development; we must refer them to the determining idea which is of the essence of the germ, and which is nothing

[1] "De la Finalité," Janet, pp. 168, 169.

[2] "La Vie, Études des Problèmes de Physiologie Générale," Chauffard, pp. 236 et sqq.

else than the being *in posse*. "When a chicken," says Claude Bernard, "is developed in an egg, it is not so much the formation of the animal body, as the grouping of chemical elements which essentially characterises the vital function. This grouping takes place only in accordance with the laws which determine the physico-chemical properties of matter. But that which is essentially of the domain of life, and which does not belong either to chemistry or physics, is the determining idea of this evolution. In every living germ there is a determining idea, which develops itself and becomes manifest in the organisation. The specific and final idea precedes and moulds the living organism. If from the organism we pass to its various functions, it may be said that the functional idea precedes the organ, and that the function forms the organ. All the functions which are to co-operate in the life of the being, are, so to speak, presaged and indicated before the function actually comes into play. The future circulation is indicated before the organs by which it is to be carried on are developed, by the appearance of the blood corpuscles. In the same way the nervous system is first to be traced in scattered rudiments. Why the lungs in the fœtus, when it cannot breathe? why the eyes, the ears, when there is no sight or hearing? The answer is, that all is being prepared and organised for these functions, which are to come into play at a given moment. The predetermined idea creates little by little the instrument which will enable it to perform its work." [1] It is not possible then to maintain that the organ creates the function, since the function is indicated before the organ is formed.

We do not indeed deny that the function requires outwardly favourable conditions to bring it into play. If these conditions are disturbed or are defective, the function itself is disturbed, and we witness monstrous deviations from the normal plan. But these in no way disprove the determining idea; they only

[1] "La Vie, Études des Problèmes de Physiologie Générale," Chauffard, pp. 327, 328.

show that the organ has not been able to overcome the influence of abnormal conditions. It is a great mistake to suppose that the final cause is in contradiction with the efficient cause, and that its triumph is made only the more marked by the absence of the means or elements adapted to its realisation. It would then be a perpetual miracle."[1] The true idea of the final cause is that which makes use of the means best adapted to the realisation of the end. The properties of the elements of which the organism is composed, are called into play by the final cause; the more readily these elements lend themselves to its combinations, the more is the ordered harmony of things made manifest. The architect shows his skill, not only in preparing the plans for the building, but also in making use of materials fitted for his purpose. We cannot conceive how the existence of these suitable materials can be in any way incompatible with the idea of plans prepared for their employment and combination. It is still more absurd to imagine such incompatibility in reference to the world, since in this case the Architect not only uses fitting materials, but materials which he has himself prepared, and which he has endowed with the properties necessary to the execution of his design; while at the same time they are no more able of themselves to enter into his plan in its fulness and complexity, than the hewn stones are of forming themselves into walls and arches. To urge as an argument against design, that is, against intelligent direction, the predisposition of things to adapt themselves to their ends, by virtue of the laws which govern them and the properties with which they are endowed, is to say that the rational disposition of things is contrary to reason. The final cause makes use of the efficient cause; it makes all the laws of nature, all the properties of the organism subserve its purpose. We fail to understand why this adaptation of means to an end, which in all human industries is regarded as a striking proof of intelligence, should in this case be made an argument

[1] "Des Causes Finales," Janet, Book I., chap. iv.

against it. Does not skill in human labour consist in making the best possible use of the materials and forces at command, and not in dispensing with them? These materials and forces produce no work of art without the intelligence which uses and combines them. That intelligence would be itself unproductive if it had not materials and forces at its disposal. The final and the efficient cause must not be separated; the one requires the other; but the efficient cause only produces harmony, a world ordered in all its parts and in its totality, if it is preceded and directed by a first and final cause at once intelligent and powerful.

CHAPTER III.

OBJECTIONS FOUNDED ON THE CONSERVATION AND TRANSFORMATION OF ENERGY.

All progress in science, every new theory in physics or biology, whatever may be its degree of certainty, is in our day urged as an argument against design. Much has been made therefore of the generally admitted fact that heat, light, electricity, magnetism, are only so many phases of energy. In a steam engine, the heat disengaged by the burning coal, transforms itself into the work done by the shaft of the engine. If a paddle is made to revolve in a body of water, the water becomes heated. Light and sound are only undulations of the ether and the air. Electricity and magnetism are of the same nature. We have here then only one energy which persists in equal amount through its manifold transformations. Such as it was in its original form, it remains after every successive change, always identical with itself, like water, the mass of which is undiminished by all the phenomena of evaporation. When the sun's rays draw up the water from the streams, clouds are formed; these clouds become charged with electricity, lightning flashes from them, and the watery vapour falls again in rain. We have thus a succession of changes, and we find at the close of the series the very same bulk of water as in the initial stage. That which we call energy is only motion transformed. Heat, electricity, magnetism, are only so many

differing modes of motion; all are to be traced to motions of the ether; we find these affecting even the cohesion of bodies, and causing their greater or less density.[1]

It would follow that nothing is lost, nothing created. This proposition is constantly advanced as an axiom. Hence it is concluded that there is nothing in the universe but motion under various forms, obeying the inflexible laws of mechanics. The world is a piece of pure mechanism, governed by necessity alone. We must cease therefore to speak of prevision, choice, combination, adaptation to any end whatsoever. All is necessary, and is produced of necessity in this empire of all-absorbing energy. Let us see if design can vindicate itself against this iron law.

And first we say that we cannot accept as an axiom the proposition upon which this whole argument is based: *Nothing is created, nothing lost.* It is not at all certain that nothing is created, that no new element of energy or of life can be produced. We have no right to appeal in support of this thesis to the succession of natural phenomena going on before our eyes; for the creative act, if it took place, must have preceded this linked series, and must therefore be independent of it. It is just because this fact of succession does not suffice to produce the initial life, that it fails to explain it. If we confine ourselves to motion, have we not already seen that it must at some time have received its first impulse? We are obliged then to admit at least one act which it has not produced.

Again, how can we set aside all creative action in nature, if it is impossible by any mechanical or physico-chemical laws to evolve the higher from the lower grades of existence, if nature has never succeeded in producing a vegetable from a mineral? Before we formulate as an axiom the negation of any creative act, we must get rid of this grave objection. We allow that the second part of the axiom: *Nothing is lost*, is less

[1] See "La Physique Moderne,' "Essai sur l'Unité des Phénomènes Naturels." Saigey.

open to question, although so thoughtful a philosopher as M. Renouvier holds that it is not conclusively proved.[1]

After all, we can only speak of the universe with which we are acquainted, and it is not open to us to extend the conclusions drawn from the experimental method beyond the sphere of our experience. Do we not see indeed in our own planet, germs of life never developed, existences which fail of their full fruition? And is not this, in a sense, a loss?[2]

But if we accept hypothetically the theory that nothing is lost, and that the fact of the transformation of energy, of which science is ever accumulating proof, involves this as a consequence; are we therefore to conclude that all freedom of action, all design, is excluded by pure determinism. Must we recognise in the laws of nature which govern this transformation of energy, and which are the laws of motion, a character of fatality which would exclude anything like free and intelligent causation, capable of willing a certain end and seeking to realise it by appropriate means. A very simple distinction, brought out with much force of reasoning by a young contemporary philosopher, M. Boutroux, frees us from this necessity. It is the distinction already made by Aristotle between matter and form, quantity and quality. This world of self-identical energy is the world of pure matter, of uniform quantity, without life, without progress. It is the sphere of an existence so abstract that it is as dead. Here indeed force rules with undivided sway; quantity without the quality which differentiates and determines it, is only the substratum of life; it is not life itself. It is brute matter, like the stone which the sculptor has had hewn from the mountain side. According to Aristotle, this matter contains all possibilities without realising any; it remains a vague, confused, undifferentiated mass. Here there can be no change because there is no real life, because this formless existence is reduced to the state of nonentity. In this low

[1] "Critique Philosophique," Aug. 20th, 1875.

[2] "De la Contingence des Lois de la Nature," p. 204. Boutroux.

sphere, everything is mechanical, and knows no other law than those of mass and motion. All is changed when to this dead abstract quantity, quality is added, that is to say, the form which differentiates, harmonises, moulds it to an end, an ideal. Then we have no longer simply the unformed stone obeying the laws of gravitation; we have the stone pointed and polished, becoming an instrument of service; or animated by the sculptor's chisel with a sublime thought, as he charms out of the shapeless block forms of heroism, grandeur, beauty. The stone when it was only a quantity, knew no law but that of motion; as soon as form appears it owns a higher power, that of intelligence.

Let it be observed that this intelligence works freely and not of necessity. The block of marble had but one mode of existence, it could not escape the laws of motion. But the sculptor can modify it in a hundred ways, he can shape it into a ram or a lion, an Achilles or a Briseis, a hearth or an altar. Form has open to it all possibilities, consequently it has freedom of choice and with it freedom as to the end to be attained. This formless stone is matter; it is the world still in the state of pure quantity, subject to the inflexible laws of motion. The same stone fashioned into countless statues representing various forms of human strength and beauty, is the world of quality, of form, the world of life reflecting at once thought and volition. With form we get a thinking and determining cause which has made its choice among the multitude of possibilities, and realises its idea by making use of pre-existing materials. It is this which sets the impress of design on all the co-efficient causes which it alone has united in the execution of one great plan.

We trace this freedom of choice, without which there is no purposive cause, as clearly in the origin of things as in their determination in harmony with pre-conceived ends.[1] Matter, the world of quantity into the principles of which we are now

[1] "De la Contingence des Lois de la Nature," Boutroux, c. ii.

inquiring, is the world of abstract life which includes all possibilities. It is the possibility of being rather than its reality. There is no positive necessity that this possibility should become a reality. Either we must assume that the possible is already the real, which is a paradox, or if we distinguish the two, it must be admitted that the possible does not of itself pass into the real; that it may remain in its undetermined state, and consequently that there must come from without, and if possible from above, the interposition of a will which shall choose between the maintenance of the possible in its potential state, and its passage to the full and complete existence of reality.

This reality of life is capable of assuming all imaginable forms and qualities. In order to impress upon it the particular form and quality which it has assumed, there must have been another choice, another thought, another free act. All progress in the life of the world, every new development, implies this intervention of a free choice, for no new development can have the character of necessity unless it was absolutely contained in the antecedents and needed no addition. If this were so we should never get anything beyond these antecedents, we should never obtain a real development. To produce a true development a fresh element is required; and as this fresh element is not to be found in the immediate antecedent, it must be sought higher. Since it is not necessary it must have been the object of a choice, of an act of will and of power. It is possible that it may have been latent from the beginning in the being in whom it shows itself at the right time; but if we have to admit anything which cannot be explained by simple and direct antecedents, we are carried back to an intelligent and competent cause. It matters little whether the germ of the higher life was originally deposited in the embryo, or was added subsequently; it is enough that its manifestation cannot be explained by the immediate antecedents of the organic life; we are then constrained to seek a higher cause. "It is impossible to derive

the higher forms of life from the lower by means of analysis, because they contain elements which cannot be reduced to those of a lower grade."[1] They find in the grades beneath them their matter but not their form, and it is the form which fashions the matter. There is not only continuity in organic life, there is succession, gradation, subordination of the lower to the higher, and consequently the formation of the lower with a view to the higher. Hence, organic nature, having emerged from the limbo of pure quantity, escapes the laws of an inevitable development. If the laws which govern it have an element of contingency, they issue nevertheless in co-ordination and regular succession. A powerful hand working freely has forged all the early links of the chain of life, which interlocking form the organised world. In each new development, in each expansion of the form and of the informing idea, there has been a fresh manifestation of a free and intelligent cause. Remove this and you have only the dead and silent world of abstract quantity; you have, so to speak, shut up in a glacial bed the full-flowing river of life, whose course has been so admirably traced.

The free and intelligent cause does not merely manifest itself in living and progressive nature, it knows also how to use for its own ends the blind mechanical forces, the energy which remains the same under all its various phases. It employs this as its instrument, it makes it work in such a way as to maintain the equilibrium of the cosmos, and, without ever violating its laws, it compels it to fulfil its purposes by placing it under certain chosen conditions. The stone does not cease to be subject to the law of gravitation when it is thrown up into the air by a man's hand, and yet its obedience is rendered under special conditions which would never have arisen spontaneously. We have in this illustration a very inadequate example of the contingent and unforeseen effects which the highest cause may produce by means of laws apparently the

[1] "De la Contingence des Lois de la Nature," Boutroux, c. ii.

most completely subject to physical necessity. There is an element of contingency in their use.

Design is manifested not only as active in the informing idea of things, but also in the organisms of the higher grades of existence. The more we rise in the scale the more free and intelligent do we discover its working to be, and the more does the living organism escape from the region of the mechanical, or at least learn how to control and make use of it in subordination to an end. Even in the lower manifestations of life we find above mere mechanical motion (which is always transmitted in invariable quantity, rendering neither more nor less than it has received) another kind of motion, spontaneous motion, which escapes the mechanical laws just in proportion to its elevation in the scale of life. Even before it becomes free will, capable of resisting the impulse from without, and thus showing that it is not the mere translation and effect of that impulse, spontaneous motion asserts itself in all living organisms. This action may be excited by external causes, but it is perfectly distinct from them in the very slightest movements whether of the sensation or the will. "To live," as has been well said by M. Chauffard, "is to feel, to be nourished, to engender, to move, to will. Life makes use indeed of matter and of motion, but it is not produced by either. It is in the living organism alone that we find sensation and function, and these are quite distinct in their essence from any motion transmitted from without. So long as the motion communicated remains simply a physical motion, so long as it is not accompanied by a corresponding sensation, it is motion without life. As soon as the motion which affects the organic nature excites the sensibility of the living organism, as soon as it is conscious by virtue of its own spontaneity of the co-operation of the living organism it becomes feeling, thought, voluntary motion, will." [1]

[1] "La Vie, Études des Problèmes de Physiologie Générale," p. 225. Chauffard. We reserve to the anthropological section of our work the question of reflex movements.

Thus spontaneity is distinguished from motion; spontaneity is life, the form, the thought, the will appearing in matter, and raising it above itself. The design which reveals itself so plainly in the universe is traceable in the lowest forms of organised life. Before it reaches its glorious consummation in the moral being, the head and crown of the material world, we find it in free and spontaneous operation in the lower world, thus reflecting everywhere the attributes of the great First Cause.

Nothing is lost, we are told. This may be possible as far as motion is concerned; but suppose that all which goes beyond the merely mechanical, all the moral and intellectual life, the clustering blossoms of thought, of art, of civilisation, suppose all these are swept away, could we say nothing was lost? Rather would anything remain worth speaking of, though mechanical force were left to carry on its work of transformation, and motion went on developing heat, light, electricity, magnetism? What a yawning sepulchre such a world would be, and yet it would remain faithful to the famous axiom! This perfectly rational hypothesis suffices to show, that while nothing was lost from the point of view of mere motion, everything might be lost from the point of view of life, which is not simply quantity but quality, form, thought, purpose.

We find emphatic confirmation of these conclusions in M. Claude Bernard's lectures on the phenomena of life common to animals and vegetables, published after his death by M. Paul Bert. "Matter," he says in his second lecture, "the mould of the protoplasm, has no form. It would only give the absolutely indeterminate. It is morphology (the science of form) which distinguishes and individualises living beings. Form characterises definite life alone. Morphology shows us an ideal plan which is carried out step by step. The point of departure is apparently identical, the ultimate issues are infinitely diversified."[1]

[1] "Les Phénomènes de la Vie commune aux Animaux et aux Végétaux." Claude Bernard, p. 330.

We know that M. Claude Bernard holds that teleology belongs to the sphere of metaphysics, that it is a speculative question on which natural science has no right to pronounce. Nevertheless he admits that the living organism would remain eternally in the indeterminate state without that morphology which implies a directing and formative idea, in a word, design.

CHAPTER IV.

THE DOCTRINE OF EVOLUTION.—TRANSFORMISM.

THE most important reaction of our day against the theistic explanation of the universe, which recognises in it the marks of design and of an intelligent purpose, was inaugurated by the scientific movement known as Darwinism. The problems raised by Darwin and his disciples are of the highest importance, and have already called forth a considerable literature. The subject of incessant discussion in books and periodicals, Darwinism is certainly one of the best-known systems of the day. Our reference to it need be only brief, and confined to the objections which it is supposed to raise against the doctrine of design. For a fuller acquaintance with it we refer the reader to the special works themselves.

We would make, at the outset, a distinction which appears to us of the first importance, between Darwinism, which is a simple theory of natural history, and transformism as a materialistic explanation of the origin of things. The former raises only the question of the *how;* the latter enters upon the *why*. Darwinism, which is confined within the limits of biology, deals solely with the conditions of the existence of life; materialistic transformism professes to solve the problem of its cause and origin. Darwinian biology explains the development of existence in the universe by an evolution subject to certain laws; but it does not assume the right of excluding a purposive cause, either in the principle of things or in their progressive evolution. Materialistic transformism, on the contrary, distinctly repudiates it, and professes to explain the

development of existence by evolution and its laws, without allowing any scope for the intervention of an intelligent cause. It follows that theism stands altogether apart from the purely scientific question, as it is bound to do, for, as we have repeatedly said, so long as science confines itself to the verification and classification of facts, and to the deduction of their consequences by its own proper methods, it is supreme. Whether the Darwinian theory of evolution be demonstrated or not, theism has nothing to lose by it. Let the conditions of existence be determined as they may, the question of its cause and origin remains untouched. Thus Darwinism has been accepted by the most avowed spiritualists, as is evidenced by Mr. Wallace's able book on Natural Selection. Mr. Wallace had arrived by his own researches at the very same conclusions as Darwin, before the latter had given any formal or systematic exposition of his views. Yet Mr. Wallace has shown in the most categorical manner that natural selection implies design at least, as strongly as the theory of successive creations. This will be made abundantly clear by the extracts we shall give from his book in our review of the Darwinian theories.[1]

It is not possible to reconcile materalistic transformism with theism, since it assumes to answer at once the question of the conditions of existence, and that of its origin. It cannot coexist with theism, for both cannot be true. This distinction indicates the order we shall follow in our discussion of the subject. We shall first show that, so far from being opposed to a purposive cause, Darwinian biology implies it, with the reservation that it still lacks scientific demonstration. In the second place we shall show that the materialistic transformism which repudiates any intelligent cause, ignores the true limits and principles of science, and instead of starting with the observation and verification of facts, is based upon pure hypothesis. It builds in the clouds the ponderous edifice of a world without mind.

[1] "Natural Selection." Essays by A. R. Wallace.

I. The Doctrine of Evolution.

Naturalists had recognised the principle of evolution long before Darwin's day. If by evolution we mean the graduated scale of being rising by regular stages, life becoming fuller and more defined with each upward step, then evolution is but another name for the order of the universe. It corresponds to the principle which we have already found running through all creation, that the lower exists in view of the higher, and serves to uphold it. This kind of evolution does not at all imply that one species can be transformed into another; they may succeed each other and yet not spring out of one another. Each species continues to consist of individuals more or less resembling each other, and all tracing back their ancestry through an uninterrupted and natural succession of generations to one primitive pair.

With Darwin evolution has quite another significance. In his view it consists in the transformation of species from one to another, so that they do not form each a fixed step in the ladder of existence, but simply a halting-place which may be left behind under certain conditions.[1]

The English naturalist was not without precursors. Lamarck, Goethe, Geoffroy St. Hilaire, had held similar views, not to mention Diderot, who is the true initiator of philosophic transformism. To Darwin, however, belongs the honour of having revived this hypothesis and rendered it plausible, by his patient observation of the result of cross breeding in domestic animals. He obtained by this means astonishing variations. The same experiments have been made on certain plants. The first results were due to the very careful choice of the parent animals, so that their good points should be reproduced still

[1] "Origin of Species," Darwin. "The Descent of Man and Sexual Selection," 1877. "L'Unité de l'Espèce," Quatrefages.

more strongly in their offspring. Here was an application of the artificial selection always employed in farms and gardens by breeders and horticulturists. Darwin does not hesitate to attribute to Nature herself a similar principle of selection by which new combinations are produced. Natural selection is distinguished from artificial, in that it cannot choose deliberately and with cognisance of the end in view, the males and females endowed with particular advantages, which advantages, being handed down cumulatively to their posterity, might raise them to a higher grade of existence. We must then find the principle of this selection somewhere else than in deliberate choice. Here comes in a second law, the law of the struggle for existence, that unconscious and barbarous Malthusianism of Nature which compels the creatures to engage in perpetual warfare if they are to exist. In every species, the feeble succumb; for inferiority is in all cases the sentence of death. The strong and gifted alone survive. In surviving, they hand down their advantages to their descendants. This transmission is accomplished by virtue of the third law formulated by Darwinism, the law of heredity, which perpetuates and strengthens the qualities transmitted. A fourth law, that of the co-ordination of the organs, according to which every partial modification leads gradually to a modification in the other corresponding organs. The new and modifying elements, transmitted by generation, and preserved by heredity, bring about those permanent and harmonious transformations without which Nature would only produce accidental changes which could never result in new species. One further law, that of the adaptation of the living organism to its environment, by which, under the pressure of necessity, it adapts its organs to the new conditions of existence, completes the explanation of universal evolution. Such, in its main features, is the Darwinian theory.

Before inquiring whether it really offers an adequate explanation of all the transformations of living creatures, or whether

it has only a restricted application, we affirm that, so far from being opposed to a purposive cause, it implies it. Passing by, for the present, the difficulty, insurmountable as it appears to us, which the production of life presents to Darwinism as to every other naturalistic system, let us look at the evolution of living beings according to the laws indicated. The general idea of evolution, as formulated by Darwin, is not intelligible apart from design. Evolution is, in his view, inseparable from the idea of progress; it is the realisation of progress from one stage of being to another; it advances from the less to the greater; it is always tending to higher development. What can this signify, except the carrying out of a plan? for there is no possibility of distinguishing the lower from the higher, or of knowing which is best, if intelligence in nature is denied. Take this away and you have no longer any criterion by which to estimate the value of things; all are confounded in a common equality. If nature tends to higher developments, it is because it is guided by intelligence.

Now this upward tendency, this progress, can only be produced by an intelligent and powerful cause. A thing can only be said to be better, when it is not identical with the thing going before. One of two alternatives then must be admitted. Either a new element of perfectness has been added, or it was virtually present in the existence in its primitive state, waiting only the fitting time for its actual development. In either case, an intelligent and powerful cause is implied, one which cannot be confounded with pure matter, for matter alone is incapable either of raising itself above itself or of implanting the germ of future developments. The intelligent cause would not appear to us any less admirable because it had placed in Nature a principle of development, containing in itself all future progress, than if we could trace it in repeated fresh creative interventions, giving added fulness to life. As Leibnitz has well said: "Why should it be contrary to reason that the word *fiat* having left something after it, namely the thing itself, the no

less wonderful word of benediction, 'Be fruitful and multiply,' should have left after it in the beings themselves, a certain fecundity or organising virtue?" The idea of evolution is then inseparable from that of design.

This is shown with much force by Mr. Wallace in his reply to the arguments by which the Duke of Argyll, in his "Reign of Law," endeavoured to establish that creation, in every combination which we can trace, and in all that is beautiful, implies the constant activity of the Creator. Mr. Wallace says: "The view of the universe as regulating itself is a far loftier one than that which supposes constant intervention on the part of the Creator. The world is so constituted that the action of general laws produces the greatest possible variety of configuration and climate. Laws equally general call forth the most varied organisms adapted to the various conditions of the earth. The forces of inorganic nature regulate and control themselves. So is it also in the organic world, where the laws are more complicated and the instruments more delicate. Can any one assume that harmony so complete implies a machinery too complicated to have been devised by the Creator? The theory of continual intervention puts limits to the power of the Creator. It implies that he could not act in the organic world by simple laws, that he was not able to foresee the results of the combined laws of matter and of mind. It must be an unworthy conception of the Creator which would impute to him such incapacity."[1]

Every one of the laws by which Darwin essays to explain the mode of universal evolution implies design. Natural selection, which is the basis of his whole system of biology, was suggested by the analogy of the artificial selection made by man, with the best exercise of his reason, and only rendered successful by careful calculation and well-considered choice. In this fact itself there is a strong presumption in favour of an intelligent governing principle in nature. It would never arrive by

[1] "Natural Selection." A. R. Wallace.

purely mechanical operations at the necessary coincidences for perpetuating the highest qualities of any race of beings. The mere struggle for existence would never bring about in numberless cases the combination of favourable circumstances demanded before a new link can be formed in the chain of organic evolution.

"The rock on which Mr. Darwin's theory splits," says M. Janet, "is the transition from artificial to natural selection. In artificial selection man chooses the elements of his combinations in order to attain a desired end; he chooses two factors each endowed with the qualifications he seeks. If there were any difference between the two, the result would be doubtful or nil. In order that the same results might be obtained by natural selection it would be needful that the male endowed with certain qualifications should be united to a female precisely answering to him; and these conditions must be fulfilled from generation to generation. The first modification having arisen accidentally and in an individual case, would naturally be rare, and consequently it would be very unlikely to revive in the next generation. Yet it must be indefinitely repeated under precisely similar conditions before the advance desiderated could be secured to the race. Such a necessity demands a power of thought and of choice."[1]

The struggle for existence is wholly inadequate to account for these countless coincidences. It is not enough in fact that the strong should have triumphed over the weak; for mere strength would have simply the result of transmitting, through the act of generation, the previous type more strongly accentuated, and would therefore only tend to preserve not to transform the species. In order to the formation of a new type there must be, not only superior strength in the male and female who have been victorious in the struggle for existence, but also a modification of the organism which may be handed down and accentuated. Now this modification needs to be

[1] "De la Finalité," Janet, p. 390.

produced at the same time in both sexes. How can this be explained by the action of mere mechanical forces? We are obliged then to seek some other explanation of the modification of the organs in the favoured male and female. Mr. Darwin has had recourse to what he calls sexual selection, which proceeds from the instinct of beauty excited by sexual union. The male, to please the female, puts forth all his efforts and displays all his advantages; in this way these advantages become in some way enhanced and transmitted to the progeny. If this explanation were the true one, the male should always have the monopoly, or at least the superiority of beauty, since he only develops it at the bidding of the instinct which impels him to captivate the female. Now it is an acknowledged fact that very often the æsthetic advantages are equal in both sexes. Again, how is sexual selection to be applied to fishes, which do not couple? It is a fact easily verified, that beauty does not for the most part exercise any seductive power over our domestic animals. Nor can it ever be explained how the desire to please should have given to the butterfly its brilliant colours.

Shall we be told that the favourable modification of animals is a happy accident? We reply, that an accident is generally transitory. The law of the influence of environment has no application here. If the environment has not changed, it cannot have exerted any modifying influence; and so far from being favourable to the development of some transformation produced simultaneously by accident in a male and female, it would hinder it; for it would be less adapted to their existence than before, and the newly-acquired advantage would prove a real disadvantage in the struggle for life. If it is asserted that the organic transformation has been effected by the change of environment, two alternatives present themselves: the transformation must have been either conscious or mechanical. If the latter, we must admit with Lamarck that a new motion has taken place in the media of the animal, resulting in an organic modification. What has caused this motion? What has given

it the necessary direction? Why does it produce the adaptation of the animal to the new environment? The phenomenon is incomprehensible apart from a purposive cause. If we choose the other alternative—a conscious transformation—must we suppose that the animal, stimulated by necessity, has effected the modification required in its organs, and has made an effort to move its members in the direction necessary for its safety, as, for instance, to fly in order to escape pursuit? Supposing that the thing was possible, it would at least follow that the animal has a purpose, an end in view, and that design is present in a spontaneous form in its operations. This realisation of a need, this choice and employment of means to satisfy it, is not the mere motion of a medium. It is moreover altogether chimerical to attribute to a mere felt want, an operation by which the organs are modified; nothing of the kind has ever been known. Habitual exercise strengthens the organs and renders them supple, but it does not create. "The mountebank," as M. Janet well says, "has muscles more flexible than other men, but has he more?"

Darwinism fails then to explain the modification of the organs. It has not been content to admit some partial modifications, but maintains the theory of a general modifiction by virtue of the law of co-ordination of the organs, a law borrowed from Cuvier. To speak of co-ordination is to speak of design, for the directing mind is never more evident and admirable than in the delicate adjustment of the various organs to their mutual relations, especially when this results from their peculiar constitution. Matter alone could never have endowed them with what we may call a faculty of blending in unbroken harmony.

We do not deny that the medium in which living creatures move does exert in a general way a very real influence upon their development; but in order that life should ascend in a steady scale of progress it would be necessary that the environment should be uniformly disposed for this end. If the earth

had always been covered by the water, the highest grade of life would have been attained by aquatic creatures. This level has been left behind only because the conditions of the terrestrial environment have undergone a change, and this change could only take place in view of an end. The earth might have been disposed in such a way that the inferior organisms would have been victorious in the struggle for life. Natural selection could not determine the conditions of its own action. There was needed a co-ordination between the creatures and their environment, which implies prevision and design. Thus the theory of the influence of environment proves, like every other naturalistic explanation, inadequate to the case.[1]

The same may be said of heredity, the rule of which is, that like produces like. The reasoning is incomplete. Chance may as easily produce difference as resemblance. Animals in the embryonic stage begin by differing totally from their parents. They end by resembling them, but with elements of difference, which differences are however restricted within certain limits for the maintenance of order in nature. Generation is a divine mystery, for nothing in the simply co-efficient causes adequately explains effects at once so great and so limited.[2]

[1] "Theism." Flint.

[2] The Law of Heredity is the subject of M. Th. Ribot's book, entitled: "L'Hérédité Psychologique." In it the distinguished author sums up all the results of experimental psychology, whether in relation to individuals or to nations. The fact of hereditary physiological and psychological transmission, is brought out with great clearness, as regards the general specific characters which are the distinctive features of the species in the broad sense, of the race, the nation, and even the family. M. Ribot raises this to the dignity of a law, with this reservation: that it must not be forgotten that heredity is twofold, since it implies the conjoined influence of two, and is complicated by this very combination of their respective qualities, which is not the same thing as the mere addition of these qualities. Setting aside for the moment all that relates to the conclusions that might be drawn from this law of heredity, which, by the author's own admission, is liable to numerous exceptions, especially in its application to individuals, we find in his book a fresh proof that the law of heredity cannot of itself operate so as to produce progressive evolution, without admitting the

It is to heredity also that Darwinism attributes the conservation and education of the new instincts. The development of the organs would in itself be of little avail in achieving progress in the biological scale, without the instincts which teach the animal the *modus vivendi* adapted to its condition after each fresh evolution. But it may be fairly asked, What is meant by a really new instinct? since instinct is nothing but a series of given acts. If it is accidental it is not permanent, it is not instinct in the true sense of the word, for instinct ought to work mechanically by the force of habit or by natural predisposition. But what is a habit which has no past and is not connected with previous acts? There are moreover instincts which, so far from being due to heredity, alone render it possible, and which are not connected with any previous experience. Instinct must have been perfect *ab initio*, or the animal could not have subsisted. Hence it implies a cause superior to its experience and to itself.[1]

We are bound to recognise, in fact, that the whole of this biological *processus*, even in the proportions to which it is expanded by Darwin, points, in the actual state of things, to a perfectly graduated scale, the steps of which are clearly marked and never confounded. It is of no avail in the first place to deny the fixity of species; this is a fact to which our eyes bear witness. The stream of generation in our day flows between well-defined banks which it never overflows. Nothing could be more methodically determined and graduated than the life on our planet. We have a right to ask, taking the standpoint

principle of design. In fact, heredity may as readily render disadvantages permanent as advantages, and become an active cause of degeneration. It is necessary, then, that its operation be carried on under favourable circumstances. "The blind fatality of its laws might make decadence the rule as easily as progress." If, then, on the whole, universal life develops itself in the direction of progress, heredity is not abandoned to a blind fatality. There is a presiding directing power which makes all tend in the direction of progress. What is this but teleology?

[1] "Les Causes Finales." Janet.

of Darwinism, how it accounts for this palpable pause in the process of universal transformation. Is it that these transformations tended to a certain end, to the realisation of fixed designs, of which the now existing species, in their graduated life, exhibit the plan? It avails nothing to say that the species is capable of transforming itself. We see no such transformation. Species has assumed a character of fixity which indicates a stopping-place, a term of repose reached, a goal attained. This is the view taken by the eminent naturalist M. Naudin, in his modification of the evolution theory. According to him, the object of evolution is to produce definitive species, and these were not defined all at once. There was a period when living creatures had a far more variable and plastic habit than at present. At that time the species were capable of modification, not only as the result of the various causes enumerated by Darwin, acting slowly and little by little, but by violent and rapid crises, which gave an impetus to the floods of life accumulated during the ages of repose; for there is, M. Naudin tells us, a rhythmic motion in every force, which produces a reaction of expansion after contraction.

This, then, is the history of the formation of our existing species, which are not destined to disappear. "When nature, having a comparatively small number of primordial types," says M. Naudin, "would form species suited to its requirements, it called into being successively at various epochs, all the vegetable and animal species which are found on the globe."[1]

This conception of evolution, far from excluding design, assumes it. M. Naudin says again: "When the species vary, they do so by virtue of an intrinsic property which is a relic of their original plastic character. This plastic character is only another form of the principle of design,—a mysterious power, regarded as fatality by some, as the will of Providence by others,—whose incessant action upon living creatures determines at all periods of the world's existence the value and

[1] "Revue Scientifique," March, 1876.

duration of each, according to its destined place in the ordered sequence of things. It is this power which brings all the members into one harmonious whole, apportioning to each its proper function in the general organism; and this function is its *raison d'être*."[1]

M. Gaudry confirms M. Naudin's view on this point, in his learned book on evolution from a palæontological standpoint. He says: "The discovery of vestiges buried in the crust of the earth, teaches us that all the transformations of the organic world form part of one great harmony."[2]

The doctrine of evolution, thus understood. appears to us altogether worthy to be accepted. It is for science to confirm it. We may venture to say that it is still very far from having placed Darwinism beyond a doubt, at least in its most absolute form, the fundamental principle of which is the constant variability of species under purely external influences.

Let us briefly review the leading objections to which it is open from a scientific point of view.

First.—The notion of a species is always vague with Darwin. He uses the term in an arbitrary way, often making it the synonym for race. He treats the species (to use his own expression) as an artificial grouping necessary for convenience of language. If we adhere to it as the description of a class, if we regard the species as a collection of individuals more or less resembling each other, which may be considered to be descendants of one primitive pair by an uninterrupted succession of generations, the supposed variability of the species thus understood would be open to very grave objections.

Second.—Actual experience is not favourable to Darwinism, for we do not discover on any spot of the globe a transformation of species now going on. The struggle for existence

[1] "Revue Horticole," 1851, p. 101.

[2] "Enchaînement du Monde Animal dans les Temps Géologiques," Gaudry, p. 28.

leaves ample room for all the species, the vanquished as well as the victors. M. Blanchard, in his "Étude sur l'Origine des Êtres," says: "The most careful investigation compels us to recognise a remarkable resemblance among the individuals scattered over vast spaces of the globe. We find in them outward variations of form and colour, but the specific type, in all its important features, remains the same; even the change from a wild to a domestic life produces only superficial modifications. Again, in the struggle for existence, chance may favour the weak as well as the strong; cunning takes the place of strength, and the procreative faculty bears a remarkable proportion to the chances of destruction.[1]

Third.—However far back we go in palæontology, we find the same distinction of species in the animal and vegetable world. There have been discovered intermediate species which give more continuity to the chain of organisms, but no clear evidence has ever been found of a transformation of these species into one another. M. Albert Gaudry concludes his interesting work on the links traceable in the animal world in geologic times, with these significant words: "Have we found more than links of relationship? Do we know the actual genealogy, and can we say that some one species is the direct ancestor of another? In the majority of cases we have not arrived at this. In putting together the materials of this work, I have been strongly impressed with the numberless gaps that we discover, when we attempt to establish by close sequence, the filiation of living organisms."[2]

As far as the geological age is concerned, we can trace back to its remotest periods the same classifications as we observe to-day. "The animals, plants, grains, buried in the subsoil of Egypt, are the same animals and plants which are living to-day on the banks of the Nile,"[3]

[1] "Origine des Êtres," Blanchard, "Revue des Deux Mondes," 1874.

[2] "Enchaînement du Monde Animal dans les Temps Géologiques," Gaudry, Preface.

[3] *Ibid.*

Fourth.—The theory of the constant adaptation of living organisms to their environment is contradicted, M. Blanchard tells us, by the fact that creatures enjoying advantages fitted to secure them against surrounding dangers, do not lose these advantages in any degree when they are placed beyond the reach of those dangers; while, on the other hand, we find that species transported into an unfavourable environment, to which they cannot acclimatise themselves, perish.

We find moreover, as a matter of fact, that the environment of living organisms has not so great a modifying power as has been supposed. M. Gaudry says: "Organised bodies are superior to inorganic, and it is not natural to suppose that the latter should determine the destiny of the former. The proof that physical phenomena are not the principal cause of the changes in the organic world, is, that in our day many hot countries ought to have remained in a physical state similar to that of the close of the Miocene Era, and yet all the species found in them show marks of change." [1]

Fifth.—The same naturalist tells us that the law of sexual selection is constantly belied by the frequent unions between privileged individuals and those of a very inferior type.

Sixth.—Artificial selection does not produce any permanent new type. As soon as its operation ceases, there is a return to the primitive type, not only in the animal, but also in the vegetable kingdom, which may be taken to be more amenable to radical modifications. M. Faivre has shown, that after all the changes produced by artificial selection, the original species remains, and reverts spontaneously from the modified types, when circumstances or artificial selection by man cease to exert a modifying influence.[2]

Seventh.—The strongest objection against the transformation

[1] "Enchaînement du Monde Animal dans les Temps Géologiques," Gaudry, p. 13.

[2] "Considérations sur la Variabilité de l'Espèce et sur ses Limites." Faivre.

of species, is the almost uniform sterility of hybrids, which have never been brought to reproduce themselves naturally without artificial crosses. On this point, we refer the reader to the demonstration supplied by MM. Blanchard and Quatrefages. M. Blanchard says: "Science can no longer entertain any doubt, except about the filiation of some very closely allied species. Wherever one of the productive elements predominates, the other is lost. Thus we are brought to recognise the independent character of the specific types and the impossibility of originating a new and independent form."[1]

This sterility of hybrids is regarded by MM. Blanchard and Quatrefages as constituting a fundamental law of nature, which alone maintains the order and fixity necessary in the domain of life; for without this law, we should have only a chaos of non-coherent and changing forms.[2]

Species, thus understood, is one of the most striking marks of design in nature. It reveals a plan profoundly conceived and strictly carried out. Let us hear what one of the greatest naturalists of the day, the famous Agassiz, says about it: "In my view, nothing shows more directly and absolutely the operation of a reflecting mind, than all these categories upon which the different species, genera, families, orders, classes, are based in nature; nothing more clearly indicates a deliberate consideration of the subject, than the real and material manifestation of all these characteristics by a succession of individuals whose life is limited to a duration comparatively very short. The great marvel of all these relations consists in the fugitive character of all the parts of this great harmony. While the species is persistent during long periods, the individuals which represent it change constantly and die, one

[1] M. Broca, in his "Mémoires Anthropologiques," maintains the opposite thesis; but the facts he adduces are not numerous enough to be decisive.

[2] See "Unité de l'Espèce," Quatrefages; and M. Blanchard's articles in the "Revue des Deux Mondes."

after the other, in rapid succession. Nothing in the inorganic kingdom is calculated to impress us so strongly as the unity of plan which is apparent in the structure of the most various types. From pole to pole, under all meridians, the mammalia birds, reptiles, fishes, exhibit one and the same structural plan. This plan denotes abstract conceptions of the most elevated order; it far surpasses the broadest generalisations of the mind of man, and it required the most laborious research to enable man to arrive at any adequate idea at all of it. Other plans not less marvellous, disclose themselves in the articulata, the molluscs, the radiata, and the various types of plants. And yet this logical relation, this admirable harmony, this infinite variety in unity, represent, we are told, the result of forces devoid of the least particle of intelligence, of the faculty of thought, the power of combination, or the conception of time and space. If anything in nature can place man above the other animals, it is just the possession of these noble powers. Without these gifts, carried to a high degree of excellence and perfection, none of the general marks of relationship which connect the great types of the vegetable and animal kingdom could be perceived or understood. How then could these relations have been conceived, but by the aid of analogous faculties? If all these relations are beyond man's intellectual power to grasp, if man himself is but a part or fragment of the whole system, how could this system have been called into being if there were not a supreme intelligence, the Author of all things?" [1]

We conclude, then, that Darwinism is far from being proved as an explanation of the development of living organisms; the theory of the transformation of species has still to contend with grave difficulties drawn from actual facts. Without attempting to pronounce sentence in so difficult a cause, we maintain, that, even if Darwinism were triumphant, its victory

[1] Quotation from an address delivered by Agassiz to the University of Massachusetts. "Revue des Cours Scientifiques," May 2, 1868.

would in no way affect the question of design, so long as it remained true to the conclusions of science and did not intrude on the metaphysical domain, and confound the question of the *how* with the *why*. We have shown that there is no law applied by Darwin to the development of life which can be explained simply by the action of mechanical forces, not one which can come into operation without the intervention of an intelligent cause. If we incline to think that Darwinism exaggerates the influence of these laws, in supposing that they offer an adequate explanation of the complete development of life on our globe, in all its various stages, we do not for a moment deny that these laws have a very real influence on the modifications to which all organised life is subject. Darwin has rendered great service to science in making us better acquainted with their operation. It is doubtless a fact, that there is a struggle for existence, which prevents the boundless multiplication of the feeblest forms of life. It is doubtless true that heredity and the influence of environment, the stimulus of necessity, and the exercise of the organs, all operate in a modifying direction upon organised existences; but their surest effect is to help to bring out more fully the normal type, the ideal which is their *raison d'être*. These causes, even in their limited action, imply an appeal to design, or, to speak more correctly, they point to the supreme intelligence which alone renders them effectual, and which by their co-ordination has produced this well-ordered and harmonised world, in which everything indicates law, intelligence, volition, in a word—God.

II. The Monistic Theory of Transformation.

We come now to the second form of the evolutionist theory, which is called Monism, in order to indicate clearly that it admits only one single principle in universal existence and in all its developments. This principle is force; and hence it is

incompatible with theism. The most pronounced theory of transformation need not, even while repudiating any creative intervention in the development of life, become materialism, if it admitted that life and mind were primordially contained in a virtual state in the first principle of evolution; for we should thus be carried back to an intelligent and powerful cause as alone capable of producing these germs or potentialities which are distinct from force. The scientific proof would still be wanting, but the principle of design and the idea of God would be left intact. The monism of which we are now speaking is a strictly materialistic theory of transformation.

It must be admitted that it has found adherents among the most powerful thinkers of our day. We shall only refer to its two leaders, Herbert Spencer and Hæckel. Herbert Spencer, the author of the "First Principles," has made the most powerful effort known to us, to construct by the mere play of mechanical forces a world utterly without mind. He has not only attempted to built up an abstract system upon purely speculative bases; he has also applied his first principle to all the spheres of existence with an unparalleled fulness of exact detail. He has tried to include in it all living creatures, man, society, morality, religion. His system is unfolded with masterly clearness, he has illuminated science by his wonderful insight, without, however, succeeding, as it appears to us, in explaining the starting-point and the harmonious progression of natural evolution.

The first principle of Herbert Spencer's system is the law of the persistence of force (*i.e.*, the conservation of energy) through all its transformations; he makes this an axiom, for he says it is not capable of proof. Matter is identical with force; universal existence is explained by the laws of transformed motion.[1] Evolution is the development of the universe in ac-

[1] On the laws of motion, see Herbert Spencer's, "First Principles," Part II.

cordance with these laws. The first of these laws is, that motion follows the line of least resistance; all resistance being an obstacle to motion, motion continues identical with itself so long as it encounters no obstacle. "Motion under resistance is continually suffering deductions, and these unceasing deductions finally result in the cessation of the motion." The second law of motion, verified by universal experience, viz., that reaction follows action, is the law of rhythm or alternation. This also is deduced from the persistence of force. Since force cannot be lost, it must, after having been apparently absorbed in bodies, disengage itself and reappear by a kind of rebound; thus action produces reaction. Rhythm is the necessary property of all motion. "Rhythm is found to be exhibited universally, from the slow gyrations of double stars, down to the inconceivably rapid oscillation of molecules; from such terrestrial changes as those of recurrent glacial epochs and gradually alternating elevations and subsidences, down to those of the winds and tides and waves; and is no less conspicuous in the functions of living organisms, from the pulsations of the heart to the paroxysms of the emotions."[1]

This law of rhythm implies not merely reaction after action, but dissolution after evolution. All evolution consists in the concentration or integration of a portion of diffused matter, and consequently in the dissipation of a portion of motion. If motion had always retained the same influence over molecules, these would have remained in a state of diffusion; before they could have emerged from this state, they must have been partially demobilised, that is to say, they must have lost some of their relative motion. By virtue of evolution an aggregate has been formed, and it is formed only because the matter which composes it has passed from a more diffused to a more concentrated state; in a word, it has become contracted, demobilised, which implies a loss of motion.

Herbert Spencer says: "Evolution, under its primary

[1] "First Principles," Herbert Spencer, p. 73.

aspect, is a change from a less coherent to a more coherent form, consequent on the dissipation of motion and integration of matter. This is the universal process through which sensible existences, individually and as a whole, pass during the ascending period of their histories. This proves to be a character displayed equally in those earliest changes which the universe at large is supposed to have undergone, and in those latest changes which we trace in society and the products of social life. And throughout the unification proceeds in several ways simultaneously. Alike during the evolution of the solar system, of a planet, of an organism, of a nation, there is progressive aggregation of the entire mass. . . . We see this in that formation of planets and satellites which has gone on along with the concentration of the nebula out of which the solar system originated; we see it in the growth of separate organs that advance *pari passu* with the growth of each organism; we see it in that rise of special industrial centres and special masses of population, which is associated with the rise of each society."[1] In all these integrations and concentrations of aggregates, there is loss of motion, or there would not be concentration. But we must not forget that this loss is only apparent, that this lost motion is to reappear under another form. It follows that the aggregate formed by means of this seeming loss of force, will come under the action of the modified motion, and, repassing from the concentrated to the diffused state, will be dissolved. All aggregates, the largest no less than the smallest, are subject to this law. Thus the conclusion of the evolution of the cosmos, is universal dissolution, by virtue of that great rhythmical law which is the corollary of the persistence of force. This dissolution is indeed to be followed by fresh evolutions; but the fact remains, nevertheless, that our world, with all which it contains, is to be re-absorbed into the sidereal nebula, and that it is ever tending to the dissolution of its present organisation.

[1] "First Principles," Herbert Spencer, p. 327.

"The processes everywhere in antagonism and everywhere gaining now a temporary and now a more or less permanent triumph, the one over the other, we call evolution and dissolution. Evolution, under its simplest and most general aspect, is the integration of matter and concomitant dissipation of motion; while dissolution is the absorption of motion and concomitant disintegration of matter. . . . Everywhere, and to the last, the change at any moment going on, forms a part of one or other of the two processes. During the earlier part of the cycle of changes, the integration predominates — there goes on what we call growth. The middle part of the cycle is usually characterised, not by equilibrium between the integrating and disintegrating processes, but by alternate excesses of them. And the cycle closes with a period in which disintegration, beginning to predominate, eventually puts a stop to integration, and undoes what integration had originally done." [1]

While predicating this melancholy conclusion of cosmical evolution, Herbert Spencer nevertheless seeks to trace back its development to less general laws than the simple integration and concentration of matter. The question arises, How does matter pass from its primordial diffusion to a state of integration, the progress of which is measured by the intensity of the concentration? In the case of the living organism, progression means differentiation, self-determination. Everything begins in complete indefiniteness, confusion, the absolutely homogeneous. How, starting from this homogeneous, do we arrive by the simple laws of motion (accepting as a principle the persistence of force) at definite multiple existences? Here we must distinguish between the inorganic and the organic world. Both are subject to the same laws, but in the case of the latter they are fuller, more complete. Herbert Spencer lays down two great laws to explain the transformation of the homogeneous into the heterogeneous, or of the one into the

[1] "First Principles," Herbert Spencer, p. 285.

multiple. The first of these laws is the instability of the homogeneous. "This instability is obviously consequent on the fact that the several parts of any homogeneous aggregation are necessarily exposed to different forces—forces that differ either in kind or in amount, and being exposed to different forces, they are of necessity differently modified. The relations of outside and inside, and of comparative nearness to neighbouring sources of influence, imply the reception of influences that are unlike in quantity or quality, or both; and it follows that unlike changes will be produced in the parts thus dissimilarly acted upon."[1] Thus the uniform passes into the multiform, and differentiation and diversity are produced.

The second law does not relate simply to the action of forces upon the homogeneous, but to the action of the homogeneous upon forces. "When a uniform aggregate is subject to a uniform force, we have seen that its constituents, being differently conditioned, are differently modified. But action and reaction being equal and opposite, it follows that in differentiating the parts on which it falls in unlike ways, the incident force itself must be correspondingly differentiated. Instead of being, as before, a mixed force, it must thereafter be a multiform force, a group of dissimilar forces."[2] This law is called the law of "the multiplication of effects."

"A single force is divided by conflict with matter into forces that widely diverge." A very simple illustration will make this truth manifest. "Take the lighting of a candle. Primarily, this is a chemical change consequent on a rise of temperature. The process of combination having once been set going by extraneous heat, there is a continued formation of carbonic acid, water, etc.—in itself a result more complex than the extraneous heat which first caused it. But along with this process of combination there is a production of heat; there is a production of light; there is an ascending column of

[1] "First Principles," Herbert Spencer, p. 404.
[2] *Ibid.*, p. 431.

hot gases generated; there are currents established in the surrounding air. Nor does the decomposition of one force into many forces end here. Each of the several changes worked becomes the parent of further changes. . . . The heat given out melts the adjacent tallow, and expands whatever it warms. The light, falling on various substances, calls forth from them reactions by which it is modified, and so divers colours are produced. Similarly even with these secondary actions, which may be traced into ever-multiplying ramifications until they become too minute to be appreciated."[1]

We have seen, then, how the homogeneous lapses into the heterogeneous; but this heterogeneous is still vague and chaotic. How are we to advance from the indefinite to the definite? Here comes in the third law, that of segregation, by which the various groups of units of which the aggregate consists are separated from each other, as the wind in autumn picks out the dying leaves from among their still living companions, and sweeps them together in heaps. When iron ore is subjected to the action of fire, the iron falls to the bottom, separating itself from the useless particles. "Chemical affinity, acting differently on the components of a given body, enables us to take away some components and leave the rest behind."[2] Such a process of separation and selection is constantly going on in nature.

These three laws explain to us the varieties of races and species, and account for that principle of differentiation in nature which is the very principle of progress. The organic world is no less subject to these laws than the inorganic, only they are modified so as to conform to the conditions of existence; or rather, they constitute those conditions. The law of segregation becomes the law of natural selection, as formulated by Darwin. It is this which differentiates the various kingdoms, classes, and species, always giving the preponderance to the

[1] "First Principles," Herbert Spencer, p. 433.

[2] *Ibid.*, pp. 460, 461.

fittest. Natural selection is the segregation of living organisms effected by themselves in the struggle for existence. Two other laws explain their preservation and progress: First.—The law of co-ordination or integration, which establishes harmony between the differentiated elements of which the living organism is composed, and forms them into a well-compacted whole. Second.—The law of adaptation to environment, without which the law of natural filiation could not produce any lasting structural modification. By the operation of these laws the living organism arrives at the moving *equilibrium*, which is quite distinct from the motionless equilibrium of the inorganic world. This equilibrium is twofold; for the organised existence needs to be brought into equilibrium, first with itself, and then with its changing environment. The former equilibrium is effected by the law of co-ordination: the latter by that of adaptation to environment. But whether direct or indirect, equilibrium is not the final term of motion, since the law of rhythm, which demands that dissolution should follow evolution, sentences all living things, with the world in which they exist, to be dissolved, to give place to a new progression, which in its turn must be absorbed into the chaos of dissolution.

In tracing the operation of these two laws of co-ordination and adaptation, Herbert Spencer makes large use of the Darwinian theories, which he is careful to connect with the first principle which underlies the whole of his explanation. Heredity plays an important part in his system; it is the means of transmitting the progress achieved in the struggle for existence, and modifies not only the instincts but also the physical organism.

In order to give more clearness to this exposition, made so graphic by Herbert Spencer, let us take one of the animal species with which we are familiar. We leave to the anthropologist all that relates to man himself. Let us only attempt rapidly to trace the evolutions by which we derive from the primordial homogeneous the mammalia—the highest form of

animal organisation. Like all other organised existences, this formed part of the primary homogeneous, in which all was indeterminate, because there was no such thing as concentration; and motion, like a strong wind, agitating the molecules, made it impossible for them to come together. When once the heterogeneous had been evolved from the homogeneous, according to the laws indicated, there were formed masses, groups of matter, which became concentrated and co-ordinated. These were subject to forces which became separated and refracted as they fell on to the unlike units of this still formless whole, and hence arose new modifications which then go on increasing indefinitely. The law of segregration gathers into groups the units which resemble each other. The first living organism that appears is very slightly, imperfectly defined, as we see in the zoophytes, which are at the bottom of the scale of animal life. Differentiation goes on under the action of the law of segregation, which becomes the law of the survival of the fittest. Living organisms become more and more fully developed; and their progress is transmitted by the law of heredity. Every new step in the scale is won by the victory of the strong over the weak. The law of adaptation provides for the safety of the animal economy under the new and improved conditions; there is a constant co-ordination going on among the organs. Changes of environment in their turn aid in the work of differentiation, that is, of progress; the law of adaptation or of adjustment prevents their exercising a destructive influence. We are thus brought up to existing mammalia; social life among them is still in a rudimentary state: it will advance under the influence of the law of specification, which implies a division of labour both between the various parts of the same organism and the members of the same social aggregate, whether animal or human. The last stage of evolution lies still beyond us; when it shall have been reached, the era of dissolution will begin. All things will relapse into the primeval chaos; the predominance of the repulsive forces will

scatter to the winds all that concentrated wealth of various life, which is but an ephemeral gleam of light in the ever-recurring cycles of evolution and dissolution.[1]

Such is this system, the conception of so masterly a mind. We must not, however, allow ourselves to be blinded by its pervading unity to its real inadequacy. We need not dwell upon its primary inconsistency, because we have already spoken of this in treating of the problem of knowledge. The axiom of the persistence of force, which, as an axiom, does not admit of proof, is out of place in a philosophy which excludes the *à priori* altogether. And yet, through the ingenious deductions of Herbert Spencer, it becomes the universal key, the complete explanation of the origin and development of things. We ask once again, how any place whatever can be allowed to that great unknowable which Herbert Spencer admits, that final x which is but the name of the absolute.

If everything is to be explained on mechanical principles, it must be absurd still to speak of the unknowable and the absolute; and yet, according to Spencer, we cannot think of the relative without, by that very fact, recognising the idea of the absolute.

To pass on. There is another objection to which Herbert Spencer will find it difficult to reply. He has no account to give of the first transition from the homogeneous to the heterogeneous. At the starting-point of evolution, the homogeneous alone exists; it has neither within nor without, nor any differentiated parts, else it would not be the primordial homogeneous; we should then have to go still further back, and the difficulty would only be removed another stage. It follows, that all that we are told, whether of the various ways in which the parts of the whole are affected by the force which comes into contact with them, or of the reaction of the various parts upon this force in accordance with the law of the multiplica-

[1] The foregoing pages are a brief *résumé* of Herbert Spencer's "First Principles."

tion of effects, has no meaning so far as the period of universal indetermination is concerned, since in it there are no parts and no whole, but simply the pure homogeneous. How can we make a distinction between this confused mass and the forces operating upon it? Herbert Spencer has then no plausible explanation of the beginning of evolution.[1]

If we pass on to the principle of universal evolution itself, which is purely and simply the transformation of force according to mechanical laws, we object to Herbert Spencer that the living organism, such as he represents it, in order to reduce it to a piece of pure mechanism, does not correspond to the fulness and variety of life, and that in this state of abstraction and generality, the entity is indistinguishable from the non-entity. The author of "First Principles" obviously confines himself to the category of *quantity*, without giving any place to that of *quality*, that is, to the formal or formative cause of Aristotle, which alone differentiates, specialises, and realises living existence. The mechanism which suffices for *quantity* gives no adequate reason for the *quality*, without which there is no element of differentiation among living organisms, and consequently no evolution. We can only refer to the remarks already made on this subject. In any case, there is one thing which Herbert Spencer cannot explain, namely, the transition from the inorganic to the organic world, the production first of life, and then of thought and of consciousness, which he treats as merely transformations of motion.

Like all the evolutionists, he is caught on the horn of this dilemma, which we cannot allow him to escape. Either the development of the living organism, when it passes to a new stage, comes from some cause higher than itself, or this capacity of development was latent in it virtually and potentially; and, if so, we must recognise in it something more than force transformed. We are bound, in that case, to admit a higher principle, which develops itself under favourable

[1] "Les Causes Finales," Janet, Appendix, p. 70.

conditions, though these conditions were not capable of producing it, for it cannot resolve itself into these conditions as a whole into its parts; it is something more and other than they.

If we now consider the laws which govern the development of the living organism, without reverting to the objections already made to Darwinism, none of these laws is to be explained apart from design. Natural selection, we are told, is to carry on its selective work in the organic world, assuring the survival of the fittest; but then it is not this selection which produces the fittest, since it implies that these favoured organisms already exist. Whence come these selected organisms, without which evolution could not begin? They do not owe their fitness to a natural selection, which cannot perform its office without them. Their superiority must have been constitutional. The law of co-ordination cannot be identified with the law of segregation; the latter only groups together things that are alike, while organic co-ordination makes dissimilar elements concur in the production of one and the same organ and function. "The problem to be solved," says M. Janet, "is the formation of a unity out of a multitude of divergent parts, as in the phenomenon of vision. The eye is the unity of a multitude of quite distinct component parts. Here is something more than mere mechanical construction; here is intelligent co-ordination in view of an end."[1]

The theory of adaptation to environment does not solve the difficulty. A change of environment does not produce at once a change in the organs. We have already shown that if the environment alone is changed, the animal, which has not been changed at the same time, is placed under disadvantageous conditions. "It is needful that the harmony between the organism and the element in which it is to live be prepared, as it is in the case of viviparous animals. Their embryo begins to be nourished by direct communication with the mother; when

[1] "Les Causes Finales," Janet, Appendix, p. 76.

the communication ceases at a given moment, the separation between the two begins. In order that the newly-born infant may live, it is necessary that, even in the embryonic stage, it shall have been so modified as to be able to derive nourishment from the mother's breast. It would die if it was not endowed beforehand with an organ capable of suction. It is evident that in this case the modification of the organ preceded the change of environment, and can only be explained by prevision, by design. Thus, we maintain that evolution is not self-sufficing, either in its initial stage or in its developments. Mechanical laws cannot explain either the first impulse of motion, or the production and co-ordination of life." [1]

The transformation of force fails also to render an account of those transformations which have no analogy with the varieties of motion, namely, life and thought. We can very well understand, then, that in spite of its admirable arrange ment, Herbert Spencer's system ends in its own destruction; for the last term of evolution, according to him, is a return to the primordial diffusion. Evolution which is but the transformation of motion, has no other end than dissolution; the mechanical system which admits no element of design, must explain all by the rhythmic laws of repulsion and attraction, action and reaction. A world brought into being without a purpose, has no other destiny than to be destroyed. We can but ask why, in view of such a fatal necessity, should the world have been so nicely adjusted, regulated, and harmonised? In spite of all his efforts to avoid it, Mr. Spencer has been forced to recognise design in the universe. It meets him on his way; but since he would not admit it at the beginning, he cannot avail himself of it at the conclusion. This is the penalty of starting with so strong a previous bias. Evolution is only admissible on the theory that there has been a creation, for, apart from the fact of creation, it has no purpose, and vanishes in the universal dissolution. Creation does

[1] "Les Causes Finales," p. 308.

not imply a series of sudden events and violent revolutions. The organism which it calls into existence has in itself potentialities to be developed under the influence of efficient causes, without necessarily excluding possible interventions of the intelligent Cause. This potential existence is capable of a gradual and rational development, the goal of which is not to be annihilation, but a fuller life. But, we repeat, nothing can be found in the final development which was not germinally present at the beginning; and just as the manifold evolution of life cannot take its rise in a mere possibility, so the potential existence points us back to the eternal actuality of Aristotle, even to God Himself.

It seems as if the great English thinker partially accepts on this point the spiritualistic view. He says, when speaking of the reconciliation between religion and science, "Very likely there will ever remain a need to give shape to that indefinite sense of an ultimate existence, which forms the basis of our intelligence."[1] In the conclusion of his "First Principles," he admits, as at least a permissible hypothesis, the possible existence of an intelligent and conscious causation, though it eludes scientific research beneath the impenetrable veil of efficient and purely mechanical causes.[2] We can but ask why in all his later writings the illustrious author seems to ignore this lofty intuition, and, in repudiating the idea of God, to reject the only adequate explanation of the evidences of design in nature.

Hæckel.

We shall not enter at any length upon Hæckel's theories. The ground he takes is so purely scientific that only specialists are competent to dispute it with him. From a philosophical point of view, he does not argue; he speaks like an oracle. Darwin is his divinity; and, as his prophet or apostle, Hæckel

[1] "First Principles," p. 113.
[2] *Ibid.* See Summary and Conclusion.

pronounces sentence of excommunication on all who do not swear *in verba magistri.* The standard by which he measures nations and individuals is their adherence to the theory of evolution. Hæckel has given it a new name; he calls it *monism,* to indicate from the outset that he recognises only one principle of things, the materialistic or mechanical principle. He brings to bear on his subject a vast accumulation of knowledge and a singular clearness of exposition. The following passage may serve as an example of the boldness of his affirmations: "We shall see in the course of our inquiries how, through Darwin's reform of the doctrine of evolution, the most wonderful problems, hitherto deemed unapproachable, of the organisation of man and animals, have admitted of a natural solution, of a mechanical explanation by non-purposive causes. It has enabled as to substitute everywhere unconscious causes acting from necessity for conscious purposive causes. If the recent progress in the doctrine of evolution had accomplished only this, every thoughtful person must have admitted that even in this an immense advance had been made in knowledge. In consequence of it, the tendency called unitary or monistic, in contradistinction to the dualistic or binary, which has hitherto prevailed in speculative philosophy, must ultimately prevail throughout philosophy."[1]

The banner of the crusade is thus fully unfurled; but, as in most crusades, the champion brings to his cause more of faith and enthusiasm than vigorous demonstration. He is certainly not deficient in science; he enumerates a multitude of well-observed, carefully classified and lucidly stated facts, but he often evades the rigorous laws of scientific reasoning, and on the most important points sometimes contents himself with hypotheses. He weaves hypothesis into the chain of his argument, and draws deductions from it as though it were certain and demonstrated fact. He, of course, accepts, with-

[1] "The Evolution of Man," Ernest Hæckel. English Translation, vol. i., p. 17.

out verifying them for himself; all the results of Darwinism with regard to natural selection, heredity, and the law of adaptation. We need not repeat the arguments we have already urged against these assumed laws of nature and their results. We are free to admit, however, that Hæckel has worked out with rare power and fulness of information what seems to us one of the strongest proofs of the theory of evolution, though utterly inconclusive as an argument for the monistic or mechanical theory of the universe. We refer to the evidence supplied by embryology. According to Hæckel, the embryo passes through all the stages of the general evolution of animal forms. He says: "The entire process of the evolution of the individual presents to the eye a connected series of diverse animal forms; and these various animal forms exhibit very diverse conditions of external and internal structure."[1] "At a certain period the embryo has essentially the anatomical structure of a lancelet, later of a fish, and in subsequent stages, those of amphibian and mammalian forms; and in the further evolutions of these mammalian forms those first appear which stand lowest in the series, namely, forms allied to the beaked animals; then those allied to pouched animals, which are followed by forms most resembling apes."[2] Dumont observes that "this order is the same as that in which the succession of diverse animal forms is revealed to us by the palæontological history of the earth.[3] We do not dispute the significance of this argument in support of the theory of evolution; but it is certainly insufficient to decide the question of the transformation of species on Darwinian principles. It rather tends to favour Naudin's theory of evolution, which admits, as we have seen, a variable period of plasticity within certain limits. In any case the fact that we can closely trace in the embryo, as in a living epitome,

[1] "The Evolution of Man," Ernest Hæckel, vol. i, p. 17.
[2] *Ibid.*, p. 3.
[3] "Hæckel et la Théorie de l'Evolution en Allemagne." Dumont.

the regular progression of animal forms from the lowest to the highest, is no argument for the absence of design. This gradual development implies a principle, a germ, a potentiality including the whole series, and this brings us again to the potential existence which no mechanical theory has ever availed to explain. We may add, that the life of the embryo gives us no indication of the manifestation of the higher life, the life of the mind, nor even of that of sensation, and no bridge is thrown over the great gulf between the physical and the moral.

Hæckel is not stumbled by such slight difficulties as these. He has not even attempted to show how this passageis effected. He has not touched any of the problems of psychology, which, in fact, he ignores altogether. He is satisfied with setting up the genealogical tree of organised life, starting from the first living cell, from that *moneron* discovered by him,—"a body without definite form, a mere particle of primitive slime, a little mass of living albumen, performing all the essential functions of life, and everywhere met with as the material basis of life."[1] From this simple protoplasm existing in the depths of the sea, universal life is derived by a process far from complicated, for it consists at first in a simple separation of the moneron into two parts. "The first and oldest process of organic differentiation, which affected the homogeneous and structureless plasson body of the monera, caused the separation of the latter into two different substances; an inner firmer substance, the kernel, or *nucleus*, and an outer softer substance, the cell-substance, or *protoplasma*. By this extremely important separative process, the organised cell originated from the structureless cytoid."[2] This process is continued by subdivision till a grouping of cells is the result. These cells form a sort of republic in which the various parts combine to form a well-ordered whole, a true organism. All this appears to the eager

[1] "The Evolution of Man," Ernst Hæckel, vol. iv., pp. 30, 31.
[2] *Ibid.*, p. 50.

naturalist as clear as day. This republic of blind elements agreeing together to produce the most perfect harmony, presents no difficulty to his mind; as though combination and co-operation were possible in the absence of anything like an intelligent or governing principle. We have never found human society established on a well-organised basis, till some degree of culture has been attained. The primitive cells, happier though less privileged, since every gleam of reason is denied them, realise at once a perfect organisation, which needs only to be developed in order to give the higher life. But what power, we ask, gave the first impulse to evolution? What led the cell to divide and subdivide, to combine in groups and to organise itself? None of the later laws of evolution, neither the struggle for existence nor the law of adaptation, can be applied in this single formless cell. And yet it is the basis of all. If we are told that it so divides because it has been increased by alimentation, then a simple accession of matter accounts for all, and we wonder why that which sufficed to give the first impulse should have been inadequate to produce any ulterior development. Moreover, the augmentation of matter in no way implies division, still less orderly subdivision and grouping. If we consider development itself, the scale of evolution as given us by Hæckel, we must acknowledge that, by his own admission, more than one round of the ladder is wanting. We draw attention specially to his admission that the immediate ancestor of man has not been discovered. Haeckel predicts that he will be found, but this is mere supposition. The chain is none the less broken in one of its most essential links.

That which appears to us a still graver difficulty, is that this chain begins in nothingness, for Hæckel is obliged to content himself with a purely gratuitous hypothesis as to the origin of life. Spontaneous generation is a mystery enacted in the depths of ocean, by means of unknown chemical combinations. It asks of us, therefore, an implicit act of faith. The words

of the author of the "Evolution of Man" bring this home to us very strongly. He says: "The one-celled condition in which each man begins his existence as a simple parent-cell or cytula justifies us in affirming that the oldest ancestors of the human race (as of the whole animal kingdom) were simple amœboid cells." Here arises another question: "Whence, in the beginning of the organic history of the earth, came the earliest amœbæ?" To this there is but one reply. "Like all one-celled organisms, the amœbæ have originally developed only from the simplest organisms known to us—the monera. These monera, which we have already described, are also the simplest conceivable organisms. Their body has no definite form, and is but a particle of primitive slime (plasson), a little mass of living albumen, performing all the essential functions of life, and everywhere met with as the material basis of life. This brings us to the last, or perhaps the first, question in the history of evolution—the question as to the origin of the monera; and this is the momentous question as to the prime origin of life—the question of spontaneous generation, *generatio spontanea* or *æquivoca*. . . . In the definite, limited sense in which I maintain spontaneous generation, and assume it as a necessary hypothesis in explanation of the first beginning of life upon the earth, it merely implies the origin of monera from inorganic carbon compounds. When animated bodies first appeared on our planet, previously without life, there must, in the first place, have been formed, by a process purely chemical, from purely inorganic carbon combinations, that very complex nitrogenised carbon compound which we call plasson, or 'primitive slime,' and which is the oldest material substance in which all vital activities are embodied. In the lowest depths of the sea such homogeneous amorphous protoplasm probably still lives in its simplest character, under the name of bathybius. Each individual living particle of this structureless mass is called a moneron. The oldest monera originated in the sea by spontaneous generation, just as crystals form in the

mother-liquor. This assumption is required by the demand of the human understanding for causation. For when, on the one hand, we reflect that the whole inorganic history of the earth proceeds in accordance with mechanical laws and without any intervention by creative power, and when, on the other hand, we consider that the entire organic history of the world is also determined by similar mechanical laws; when we see that no supernatural interference by a creative power is needed for the production of the various organisms, then it is certainly quite inconsistent to assume such supernatural creative interference for the first production of life upon our globe. At all events we, as investigators of nature, are bound at least to attempt a natural explanation. . . . The doctrine of spontaneous generation cannot be experimentally refuted. For each experiment with a negative result merely proves that under the conditions (always very artificial) supplied by us, no organism has been produced from inorganic combinations. Neither can the theory of spontaneous generation be experimentally proved, unless great difficulties are overcome. . . . He, however, who does not assume a spontaneous generation of monera, in the sense here indicated, to explain the first origin of life upon our earth, has no other resource but to believe in a supernatural miracle."[1]

We are thus required to accept a postulate based purely upon a strong prejudice. It would be hard to find a more decisive argument against a system which is constrained to accept a gratuitous hypothesis, because of its author's preconceived ideas. Rigorous science, which is always averse to preconceptions, has pronounced with just severity against this convenient mode of argument, by the mouth of one of its most illustrious and freest thinkers, whom no one will accuse of being a partisan of Christian spiritualism. In the congress of German Naturalists, held in Munich in 1876, M. Virchow objected to the demand made by Hæckel that the theory of transforma-

[1] "Evolution of Man," Ernst Hæckel, vol. ii., pp. 30–32.

tion should be introduced into the teaching of primary schools. He said: "With Darwinism, the theory of spontaneous generation has again been brought to the front. I fully admit that the temptation is strong to add this crowning stone to the theory of man's descent. There is something satisfactory in being able to admit that a certain favoured group of atoms, Carbon and Co., were at a given moment, and under certain circumstances, separated from ordinary coal and gave birth to the primitive plasson, and that the same process is being repeated to-day. It is true no one can adduce a single positive fact in evidence that such spontaneous generation ever took place, and that an inorganic mass, even of this firm of Carbon and Co., was ever transformed into an organic mass. Nevertheless, I admit that if we propose to imagine to ourselves how the first organic being could have originated, there is no alternative but spontaneous generation, unless we recur to creation. *Tertium non datur.* But spontaneous generation is not demonstrated, and we shall be wise to wait for its demonstration. We remember how lamentably all attempts have failed to find a place for it in tracing the passage of the most elementary forms from the inorganic to the organic kingdom. Haeckel will never be able to explain to us how, from the midst of this inorganic world, in which nothing changes, life can come forth. The lapse of countless ages makes no change in mechanical laws. And if we go back to the periods of incandescence in the history of our planet, we may fairly be reminded that intense heat is far more destructive than productive of life."[1]

Let us recognise with Virchow, that there is nothing like life but life itself; that nature is twofold, and that, though formed of atoms of the same sort, organic matter presents a continuous series of phenomena essentially differing in character from those of the inorganic world.

Hæckel has not made his materialistic theory of transformation any more plausible by heralding it with a blast of

[1] "Revue Scientifique," December 8th, 1877.

trumpets. He has found his way stopped by the impassable barriers of life and mind; and if he has circumvented them with singular adroitness, he has not removed the obstacle standing directly in the way. It has still to be encountered by all true scientists who are not prepared to accept with a blind credulity worthy of the veriest devotee, a gratuitous hypothesis as the basis of their system.[1]

[1] The question of the origin of organised life has been carried still further by M. Perrier in his learned work, "Les Colonies Animales et la Formation des Organismes" (Edmond Perrier, Professor to the Natural History Museum, Paris). He justly observes that the infinitesimally minute creatures, which are said by the transformation theory to be produced by spontaneous generation, exhibit life already in a state of development. In order to arrive at its first manifestation we must go as far back as the protoplasm which is their physical basis. Now, according to M. Perrier, it is impossible to separate this protoplasm from inorganic matter. He says: "All attempts fail to connect this protoplasm with any of the categories into which physical science divides bodies, it is neither a solid nor a liquid." The protoplasm resembles the albuminoids, its mean chemical composition is carbon, hydrogen, nitrogen, oxygen, with a small quantity of sulphur and other mineral substances. It has been found as impossible to reproduce it as to reproduce albumen, from which, however, it differs totally. Not only does the protoplasm differ from all chemical compounds by uninterrupted changes of composition, but also by the fact that none of the material atoms present in it at the moment when it can be taken and analysed (atoms which constitute the very essence of the chemical compound) are destined to remain in it. The chemical compound is characterised by its component substances, protoplasm by motion. Life is added and superposed to affinity and to the physical agents, so as to produce, in addition to the physico-chemical phenomena, others proper to itself which are essentially phenomena of motion. It is idle to assume, as Hæckel does, that the history of life is only one particular chapter of the history of carbon.

If all the chemical substances believed to enter into the composition of a given protoplasm were brought together and combined, so as to form a product chemically identical with it, it would yet be necessary to impart to the molecules thus compounded those complicated motions which characterise life, and which lead to a perpetual assimilation and consequent dissimilation, unknown to chemistry ("Colonies Animales," pp. 34–39). M. Perrier does not stop at this primary difference between protoplasm and a chemical compound. He defines with great distinctness the characteristics peculiar to the latter. "Nutrition," he says, "distinguishes

III. Hegel's Theory of Immanence.

After the school which denies design altogether, we come to that which admits it but in a very imperfect form, as deprived of consciousness. This is the school of unconscious and consequently impersonal adaptation. This school teaches that nature is not to be explained by mechanical laws; it obeys a principle of adaptation by which it is disposed with a view to certain special and general ends, but this adaptation is not to be traced back to an intelligent and powerful Cause, which conceived the plan so marvellously carried out before our eyes. This plan is realised by virtue of an immanent internal principle of adaptation. Here the school divides into two great

the living substance from the mineral. The crystal only attracts to itself molecules possessing its own chemical composition, the protoplasm absorbs substances of variable composition, decomposes them, assimilates some of their parts and rejects others. Protoplasm is subject to an internal motion which never stops." M. Perrier recognises, like Claude Bernard, a directing idea which impresses diverse forms upon the products of protoplasm. "It possesses also," he says, "the power to evolve various forms. There are then in it hidden springs, for neither the separate atoms nor their combinations are capable of evolution" (*Ibid.*, pp. 40, 41). Lastly, while the crystal is capable of indefinite accretion, protoplasm exists only in an individual state, and is of limited size. Protoplasm reproduces itself by dividing, it constitutes therefore a class of substance altogether apart. The corpse supplies us with the final illustration of the distinction between the inorganic and the living body, for it possesses all the chemical elements of composition which are in the living being, and yet it has not life. M. Perrier attempts, indeed, to give us an explanation of the origin of life. He makes it spring forth from the vortices of that mysterious element called ether, the last term of substance as it passes into motion, but he himself admits that this is only a hypothesis, and he regards it as in no way exclusive of an intelligent First Cause. "The physicist in his laboratory," he says, "can only conceive of the Deity as presiding from all eternity over the existence of matter and of motion, of which He is Himself the first cause, and as directing the operation of those laws which govern the succession of phenomena." We have already seen that this eminent naturalist admits design by his theory of hidden springs in protoplasm.

branches, of which one tends to optimism, the other to pessimism. Hegelian metaphysics belongs to the former branch. The immanent principle of adaptation leads, according to its teaching, to glorious results. Its final term is the Absolute Spirit; towards him it has been ever tending, it is his thoughts in logical sequence which it has been unfolding in the endless succession of things; it is these which it externalised in some sort in nature and brought into ideal and conscious life in the mind of man, the bright mirror in which, after his diffusion, the Absolute Spirit beholds himself. God becomes, God fashions, differentiates, apprehends himself, reveals himself to himself step by step till he manifests himself as the Spirit, as the last term of that vast and ceaseless development which is ever recommencing. So far from its being he who in the beginning of things conceived the plan of the universe with its admirable co-ordination, everything is derived from an elementary entity so abstracted and denuded that it is called the Not-being. The principle of adaptation which directs the universal development, and which is so completely subject to the laws of logic that it can be deduced from reason as a series of closely connected theorems, is immanent in things. It has no cognisance of itself until its last term, the climax of its development, in the Spirit which disengages itself from the externalisation to which it has been subjected in nature. Nature is its realised thought but without consciousness or will, for immanence thus understood, excluding all that is transcendent, does not place the world, with reference to God, in the relation of effect to cause, but makes God the effect of the world, the resultant of all the antecedent progression. The world has obeyed a blind impulse, which yet had reason in it, since it has made everything work together towards a supreme end.

After exerting a great influence on the thought of the age at the commencement of the century, Hegelianism is become in our day all but completely obsolete. Although, in our opinion, it is infinitely superior in the boldness of its metaphysical

system to the gross materialism of the day, it has so little influence now on thought that it is not necessary to enter into a prolonged discussion of it. The only point on which it might be worth while to dwell, because it is one which has been taken up by some schools exerting a great influence in our own time, is that of adaptation as immanent in nature, as opposed to a transcendent purposive cause. Things, we are told, would fulfil their proper purpose without any intelligent cause above or prior to them, to foresee, to combine, to adapt means to ends. Let us observe, first of all, that we must be on our guard against establishing an absolute opposition between transcendent and immanent adaptation. It is by no means necessary that the intelligent and poweful Cause by which the world was conceived and organised, should be always acting upon it from without by miraculous interventions. It may well have given it so perfect an organisation that it is able to develop itself, according to its proper design, by virtue of the laws given and the intrinsic virtue imparted to it. We can conceive of the world as a watch that can go without constant re-winding. It may be endowed with springs capable of indefinite motion, and disposed at first with such perfect exactness that there is no more need for any fresh intervention unless some disturbance takes place. We are then quite prepared to admit this kind of immanent purpose; but that which needs to be demonstrated is, that such a purpose could be realised spontaneously, that this admirable co-ordination of means and ends could have been brought about by some blind instinct, incapable of any prevision, when the co-ordination of various forces to a future end necessarily implies prevision, that is to say, the opposite of blind instinct. That the watch goes of itself to-day, proves only one thing, namely, the perfection of the original act by which it was disposed, that is to say, the wisdom of the artificer and the skill of his hand. The more clearly you prove the immanent, the more do you of necessity imply the transcendent as indispensable at the beginning; for adaptation

in the world is only possible by virtue of an intelligent thought which could not have lain buried and slumbering in the primitive diffusion of things.

The plan of the edifice assuredly did not form itself little by little as the structure rose in such harmonious proportions. This is emphatically true with relation to the living machines called organisms, and of that vast accumulation of these machines which constitutes the world, the organic whole. In short, the world, according to Hegel, develops a vast and noble conception, all the parts of which are rationally connected, and yet, according to his system, this conception had no originator, for it does not precede the things themselves but results from them. This is wholly inexplicable. If an intelligent and powerful Cause did not create and dispose the world, the world must have originated in a pure potentiality, containing all forms of the possible. We fail to conceive, first, how this potential passed into the actual, and then how a rational choice was made between the various possibilities. When adaptation is once admitted in any degree, it implies a predetermination, a predisposition, which is nothing else than the idea of the effect to be produced. "What can an idea be, if it is not an intellectual act, made present to mind by consciousness?"[1]

IV. Schopenhauer and Hartmann.—Renan and Jules Soury.

We have seen how the theory of immanence, as formulated by Hegel, leads to optimism, since by virtue of the indwelling logic which governs the world, all is well, and even evil itself contributes to this dialectic, which makes every fresh stage in the progress of existence to consist in the reconciliation of two contradictory terms.

[1] "Les Causes Finales," Janet, Book II., chap. ii., § 2. See a very conclusive refutation of Hegelian pantheism in Jules Simon's "Natural Religion."

We find the theory of immanence also in Schopenhauer and Hartmann, and adaptation in connection with it. In their philosophy it is called the Unconscious, and its tendency is in an opposite direction, namely to pessimism.[1] This school is very popular just now, its doleful auguries are specially affected by those *virtuosi* of the thinking world, who, aiming mainly at effect, harp *ad nauseam* on the theme in vogue, like street musicians on a popular air. It is the strain of despair which seems in our day, if not the most beautiful, at any rate the most piquant, and we are wearied with its repetition. Even Hartmann, in spite of his extensive learning and his powers as a metaphysician, has often enhanced his tragic theme by paradoxes so strange that they might be most fitly paralleled by the physical contortions of a clown.[2] It must be admitted, however, that he, like his master, represents one of the great schools of thought, that which argues, from the aspect of things, the triumph of evil over good, and thus raises against conscious design a grave objection, which it would be frivolous to ignore. Pessimism has been the inspiration of systems of religion and civilisation which have held millions of men under their influence for centuries. It is the true basis of Asiatic pantheism, of which Buddhism is the outcome. To the mind of the subtle Oriental races, imbued with these conceptions, individual life appears in itself a curse, as something outside the true existence—the Infinite. There is only one happy moment in the life of the perishable creature—that which puts an end to his own proper existence and plunges him into the dark abyss of absolute Being. Our western Buddhism finds a still deeper source for the misery of existence; it regards it as accursed because it is bound up with the will. Now it is of the essence of will to desire that which it cannot obtain, and hence to pursue an end which is ever eluding it, and to consume itself in impotent desire. Schopenhauer sees nothing in the will

[1] See "Schopenhauer's Philosophy." Ribot.
[2] Philosophie des Unbewussten." Hartmann.

but effort and suffering. The representation or the idea is with him altogether secondary. Everything in the material as in the spiritual world, resolves itself into the will, that is to say, into throes of pain. In its latest form, pessimism is even more fully developed. We shall give a brief summary of this "Philosophy of the Unconscious" as presented in Hartmann's famous work, which has been the great philosophical success of recent years. We shall only attempt to trace its main outlines.

Hartmann avows himself a decided believer in teleology. No one has more strongly combated the purely mechanical explanation of the universe. The slightest muscular movement implies, in addition to the purely nervous act, a motive idea, a mental representation of the muscular point to be moved. Nature has a restorative and reparative virtue which cannot be traced to mere motions. Evolution is not simply the development of a self-identical force. Every progression in nature is the expansion of a new germ, which had been present in a latent form in the antecedents.[1] Progression is not then due solely to external circumstances, such as the struggle for existence or the change of environment. These circumstances have indeed an influence on the development of existence, but that development is due to the virtue of the new germ implanted by a higher power, and not of their own originating. This higher power, which orders, combines, and disposes all things in regular sequence, is not a supernatural cause, an intelligent and free being, it is nothing else than the "Unconscious," or the great All. Hartmann gives the key-note of his system in these words: "To bring together all the phenomena of thought which exhibit unconscious ideas and unconscious volitions; and by means of this collection of facts to demonstrate the existence of the common principle which explains them all, is the object of the first two sections of this work."[2]

[1] See "Philosophie des Unbewussten." Hartmann.
[2] *Ibid.*, "Einleitendes," p. 2.

The object of this demonstration is to show that the Unconscious is nothing else than the One-All, in which the entire universe is contained. The proof results from the collation of two series of facts; the first series is taken from nature and animal life; that is to say, from the sphere of life in which consciousness is absent or incomplete. The author accumulates facts in evidence that this obscure world regulates itself with admirable wisdom, which can only be the manifestation of the Unconscious. Everything in this domain is at once intelligent and instinctive. Intelligence then can exist without consciousness. The second series of facts is taken from the world of man, in which it has always been assumed that intelligence reigns supreme. It is shown on the contrary, that its highest manifestations are spontaneous and instinctive rather than rational, and that they belong therefore to the sphere of the Unconscious. Thus it is the Unconscious, and not conscious thought, which governs the world. We shall not follow Hartmann's elaboration of this ingenious argument. Our own minds can suggest many of the curious and interesting facts to be adduced in evidence of design at work in the organism of living creatures, in their growth, formation, functions, and in proof of the unfailing certainty of that instinct in animals which enables them to find their sustenance, and to secure the safety of their progeny (even when they are never to know them), to construct their habitations, and to conform to the great law of division of labour. The author has no difficulty in showing that instinct is compatible with a spontaneous skill not to be equalled in certainty and in fertility of combination by the most scientifically devised human industry. In the second part of his argument he brings out with equal clearness the share taken by spontaneity in human activity. We find at the outset instinct in this higher sphere just as in the animal world. Is it not instinct which is paramount in the endearments of love, in that sudden electric thrill which binds together two human souls? The moral life is nourished in mysterious,

obscure depths, from whence springs all that is great and powerful. The will gives its decision in critical moments with lightning rapidity. Character, which constitutes the true ego, is, as it were, the subterranean source of our activity; it is not formed by the reason. The influence of education and instruction is as nothing compared with this hidden, sovereign, inexplicable force. When man is raised above himself by the generous impulse of heroism, or when he attains the summit of genius, he is no longer his own; calculation is absent from all that is great, it is the triumph of spontaneity. The more powerful the inspiration is, the more it carries us out of ourselves; it is a sublime delirium, in which the mind loses sight of all its wonted and measured conceptions. The noblest possessions of thought have come by intuition, that is, spontaneously, not by ordered search. Lastly, mysticism, which is the basis of that universal manifestation of the human soul called religion, is nothing else than unconsciousness, the loss of the conscious ego in the abyss of the Divine. In the history of humanity, the Unconscious reveals itself first in the marvellous invention of language, which would never have come from a slow process of thought; and then in those great movements of the masses which suddenly regenerate the world, in that collective genius which inaugurates new eras by revolutions which defy all prevision and calculation.

The immorality exemplified in history, which allows injustice to triumph proudly, while it suffers the best of men to fall one by one under the mysterious scythe, upon the ground watered by their tears and their sweat, without one pitying hand held out to succour them, is an overwhelming proof that the sovereign power does not belong to a wise and just Being capable of loving and succouring, of governing the world in accordance with what seems to us good; but to an irresponsible power without goodness, without compassion, indifferent as Nature itself to our woes—in fine the great unconscious All. He is neither good nor bad, neither just nor unjust,

for he comes under none of the categories of conscious life. He has the certainty of instinct, of intuition. What is he then, in short? He is at once the idea and the will; the unconscious idea, the unconscious will. The idea contains in itself virtually the summation of possible existences. The will tends to realise them, and this it does blindly, without consciousness, with a sort of productive mania. To use Hartmann's image, the idea is the feminine element; the will does violence to it to evolve from it the real existence. There is present in this first production of existences a principle of suffering, but the will never exhausts all the potentiality of the idea; the possible always goes beyond the real. Hence the dim sense of something lacking in a world always incomplete and haunted with unsatisfied desire. But the idea and the will only feel this pain in a very slight degree; it is uneasiness rather than suffering, for consciousness has not yet begun. The theory of consciousness is the most obscure part of Hartmann's system; it is not possible to make it really clear. As far as we understand it, it is this:—Matter has been produced by the Unconscious; it reduces itself to an almost ideal atomism, to a compound of forces subject to the laws of attraction. These atoms, in grouping themselves, form various organisms; the most perfect is the brain, which is the necessary condition of definite thought. From the moment when the unconscious idea comes in contact with the brain, it is localised or limited; an obstacle is presented to its indeterminateness. It comes into collision with something which the Unconscious has not willed, and which is a barrier to it. Thus thrown back upon itself, reflexion begins, and with reflexion the consciousness which distinguishes between the ego and the non-ego represented by the material organism. "Suddenly, in the midst of that peace which the Unconscious enjoys with itself, arises organised matter, the action of which excites the reaction of sensibility and presents to it an idea which seems to have fallen from heaven, for it feels in itself no will to produce it. For the first time the

object of its intuition comes to it from without. The great revolution is begun, the first step is taken towards the enfranchisement of the world. The idea is emancipated from the will; in future it will be capable of opposing it. The astonishment of the will at this revolt, the sensation that the appearance of the idea produces in the Unconscious, this is consciousness.[1] As soon as consciousness appears, the pain of the world, which was before dull, becomes acute. The tragedy begins, but at the same time the means of deliverance is found. Of this formation of consciousness by the brain we may say, "*Felix culpa*," for this suffering of the world ceases just because it becomes intolerable. The conscious ego has subdivided itself into a multitude of individuals who are only the co-ordination of atoms or atomic forces grouped in time and space. Each particular being, each individual, is the resultant of the reciprocal action of the diversified wills of the One-All. They are not beings, but acts of the Being. The conscious and individual being aspires to repudiate this accursed life concentrated in him; he aims to return to unity from multiplicity, in order that, by concentrating more and more the conscious life, he may destroy it at one blow, and with it this world of despair. Hartmann paints in vivid colours the universal agony. He shows that suffering increases with the development of life, that happiness can be only negative, that all joy has its counterpart in ever-growing pain. Optimism is only a ridiculous illusion, whether it places happiness in the present life, the balance-sheet of which always shows a loss, or discounts on the future a bill without any security, or takes refuge in the theory of progress, which is the silliest of all deceptions. Our democratic institutions efface all the fine distinctions of art and of thought. The happiness of the greatest number means the lowering of the general level; thus it runs counter to all the conditions of excellence, which requires the preponderance of the select few over the vulgar many. The light becomes grey

[1] See "Philosophie des Unbewussten," Hartmann.

and cold by diffusion. The object of our aspiration must be the time when the last man shall see the light upon a frozen earth, when consciousness shall have done its work, which is to lead all men to the voluntary extinction of life. Then the Unconscious will regain its idea-less tranquillity, unless it evolves a new world of suffering. Happily, it will never become conscious.

In short, in the beginning, in the period of pure unconsciousness, there was no conflict between the idea and the will, and therefore no opposition to the production of the world. When the idea became conscious, the will was enlightened, it understood that its works were accursed, and it turned against them. After having created all, it seeks to destroy all. This colossal suicide is the result of conscious life. For this very reason it is a boon, for good results from the excess of evil, and the one possible good is annihilation. Meanwhile, it is lawful for each individual to seek his own interest; selfishness is the only reasonable thing, it is not for us to be more generous than the Unconscious. Moreover, it is only egoism which has produced individuality. Morals belong only to the world of appearances. If we aim at success, it is because this is our great interest. Justice, which has no eternal basis, since it has no existence in the Unconscious, is troublesome, since it helps to maintain the equilibrium of things as they are. Charity does more harm than good, by postponing their necessary destruction. All things considered, the will of Nature produces more pain than pleasure. In order to escape from this calamity of the will, the unconscious idea, which has not been able to prevent the misfortune, has recourse to consciousness, which is to emancipate the idea by subdividing the will in the process of individualisation, and by drawing it in opposite directions which neutralise each other. By the development of consciousness the will is to be reduced to nothingness!

The objections are manifold to this ingenious system, which, in spite of the brilliancy of its exposition, seems (except on one

point, to which we shall refer again) more like a prodigious *jeu d'esprit*, a gauntlet thrown down in sport, than a serious metaphysical essay. At the very outset it is marred by a fundamental contradiction. The Unconscious is proclaimed to be infallible; we are told that it is never mistaken in the way in which it instinctively guides the world, where it reigns alone; and yet this world in itself, even before the great folly and agony of consciousness begins, is a colossal mistake. However vague its suffering is, it is real, and arises out of the impassable distance between the will and the idea, the will never being able to realise all the possible contained in the idea. However indefinite, the conflict exists; the Unconscious has then perpetrated a folly. What does it avail to accredit it with infallibility in details, if the whole thing is a grand mistake? What can we understand by this instinct which is infallible where it has to provide for the nourishment of larvæ, but which has commenced its work with a prodigious blunder? How can we admit a well-ordered design in the parts, when the whole is an absurdity? The system is no less contradictory in its assertions as to the genesis of consciousness. In the first place, how is it possible to understand how consciousness should take its rise despite the Unconscious? Is it not the Unconscious which has produced the material organism from its lowest rudiments to that delicate, finely adjusted instrument —the brain? Yet it is the brain which, stemming mere instinct, raises it to reflexion and consciousness, that is to say, converts it into something not intended by the Unconscious, and thus the first conflict begins between the idea and the will. On what ground can it be assumed that the Unconscious did not will this contact of instinct with the brain, if it is true that it did not prevent the formation of that inopportune organ? He willed the means by which conscience was produced; is not this the same thing as willing its production? It is impossible to escape this difficulty. Let us look, in the next place, at the part assigned to consciousness. We are told that its mission

is one of enfranchisement, because by urging on to its utmost limit the suffering of the world, it leads the conscious creature, in whom all this suffering is concentrated, to seek to destroy its cause, to put an end to life and being. But surely it was this same supposed deliverer which really produced the suffering. Before its appearance suffering was so indistinct, so vague, that it could hardly be said to exist. Suffering which is not felt is not suffering, and how could suffering be felt without consciousness? In short, it is consciousness which gives birth to our sufferings, it is this which binds the hungry vulture to Prometheus' side. What it destroys is its own handiwork—consequently its supposed work of deliverance is a farce. We might well crave to be saved from this deliverance, since it is also the cause of the anguish to which it is supposed to put an end. It is the world's executioner—an executioner who does not do his work at a blow, but who protracts and intensifies his torture during endless ages. It is evident that when he shall have struck his last blow, there will be no more cries and tears, because there will be no one left to sigh or suffer. But it would have been simpler to leave out the executioner altogether. The benefit of the last blow of his axe is altogether outweighed by the previous tortures of which he has been the author.

In a word, if the world is a folly, the Unconscious by which it was produced is fatuous. All is pure irrationality, why should we try to philosophise? Let us cease this comedy, which casts no cheering ray upon the dark delirium of existence.

If, turning for a moment from these strange aspects of the system, we consider the ingenious and often striking observations by which the author tries to establish the universality and superiority of unconsciousness by pointing out in the animal world the certainty of instinct, and in human life the glorious aspect of the spontaneous, which he holds to be purely instinctive, we should make the same objection to that which is

absolute in his system which we have already raised against the theory of immanence. He calls us to admire marks of design in nature, combinations perfect in their adaptation to the end in view, that is to say, to a coming event which cannot be apprehended by sensation. This design in nature implies prevision, and consequently intelligence, which is something apart from the fluctuations of mere sensation. We have within, in our mental consciousness, the perfect type of this thought which foresees and combines. We ourselves have recognised how far superior is its operation to that of instinct. It alone can disperse the illusions of passion, and can overcome indecision, by making us weigh our motives and adapt means to the end in view. It teaches us our true interest; and to it civilisation owes its progress. It would seem that we have here a sufficient explanation of design, for, having discovered it in ourselves, there is nothing to prevent our admitting its existence prior to and above ourselves. Everything points to this conclusion, for the effect cannot be greater than the cause. The mind within us can only have been produced by mind. In admitting that mind, not feeble and limited, as it is in us, but absolute and all-powerful, is the principle of things, the adaptation which we trace in them ceases to be obscure. It is an adaptation derived from the supreme Intelligence, which alone is capable of prevision and combination. To prefer to substitute for this the Unconscious, incapable of any prevision, of any volition with a view to an end, is at best to have recourse to the less to explain the greater, to the obscure to explain that which is clear. In view of the smallest work of man, we exclaim, Here is the evidence of mind. Yet, looking on this vast organisation of the world, the presence of mind is denied, and its explanation is sought in the unintelligent, the Unconscious. We do not deny instinct and its marvels; what we do deny is, that it is self-sufficing, and that the most perfectly adjusted results are to be assigned to a cause incapable of foreseeing.

We observe also that Hartmann has made the domain of instinct singularly broad, and that in identifying the raptures of love, the miracles of genius, and the sublime deeds of heroism with the instinct of the insect, he has forgotten that in man spontaneity is never dissociated from consciousness, that intelligence is always an element in acts of the most spontaneous generosity, and that in its lightning rapidity, the play of conscious thought combined with the effort of the will, is something infinitely higher than mere animal instinct.

All that has just been adduced in opposition to the theory of unconscious design, applies point by point to the strange cosmogony laid down by M. Renan with his peculiar skill as a writer, in his "Dialogues Philosophiques." He also recognises design, the carrying out of a plan in the world, while at the same time he maintains that there is nothing in it to reveal another will than that of man, as though this design, this plan, did not imply an intelligent cause, capable of prevision and combination; as though the mere existence of the thinking and willing creature called man did not point to a cause at least equal in intelligence and power. M. Renan would have us believe that the mysterious power hidden in the heart of nature misleads us with an artfulness unparalleled by any Machiavellianism of history, whether to beguile us by the wiles of love into the perpetuation of the species, or, above all, to persuade us to do that which is right, as though right had some special sanction attached to it; as if, of all vain things in the world, the vainest were not virtue. We are left to divine how all this artifice is compatible with unconsciousness. Indeed, from the very first these "Dialogues Philosophiques," with their seeming ease and their startling paradoxes, have been accused of putting in the place of the Christian faith mysteries infinitely harder to be understood. What can be said of the fantastic visions with which this strange book closes? What can we think of that great divine polypary of the future, in which all individual consciousness is to be confounded; of

those future masters of the world, those terrible *savants* whose glance will be more deadly than the lightning, and who must be put an end to with all speed, as the worst of monsters?

The *hylozoism* which M. Soury proclaims in a Latin thesis, with the express reservation of a secret doubt, he vainly attempts to accredit with a lofty genealogy, in which he erroneously inserts the great name of Leibnitz.[1] He falls into as palpable contradictions as the system of the Unconscious. According to this theory, intelligence, consciousness, memory, all belong, like motion, to the ultimate parts of matter. Between the stone and the mind there are only differences of degree. Clearly there is in this motley system the implicit avowal of the impossibility of adhering to unconscious design. M. Soury recognises that design is inconceivable without consciousness, and he assigns consciousness to the atom. Motion is only the external aspect of feeling and consciousness. The prejudice against the idea of the Divine must indeed be strong, when mind is assigned by preference to the material atom, rather than admit a spiritual power as alone capable of communicating the higher life to the creature, and of disposing the world in harmony with predetermined laws.

M. Renan and M. Soury agree in the conclusion that all that we call good or virtue is a mere delusion and vanity, and that the end of existence is a great blank. If the former is more guarded in his expressions than the latter, the reserve is only observed in the part of his dialogues which he calls "Les Rêves," in which all is imagination; but the final utterance of both is a note of despair. Like Hartmann and Schopenhauer, their theories end in pessimism.

[1] The monad is not the intelligent and conscious atom of hylozoism. It is an energy representative of the world in which perception is sometimes vague, when it constitutes the corporeal element, sometimes distinct, when it constitutes the soul. This suffices to maintain the distinction between matter and mind which hylozoism effaces. Moreover, the affirmation of the Supreme Cause, so distinctly made by Leibnitz, forbids any assimilation of the two systems.

This pessimism brings again before us the weightiest objection that can be urged against intelligent design, namely, the presence of sorrow and evil, and consequently of disorder in the world. This presents at the outset an invincible argument against the ordering of the world by supreme wisdom. Doubtless this objection is unreasonably exaggerated by Hartmann. It is not true that existence is simply suffering; the happiness which even the humblest creatures enjoy is not purely negative. When the bird flings abroad on the cloudless morning air his flood of song, he expresses a joy in living which is no illusion. Short and precarious as this joy is, it is none the less real; the bird's whole being expands with delight; his rapture is no deception. When the spectacle of natural beauty thrills the heart of man with an ecstasy of admiration, which sometimes bursts forth in noble song; when he stands awed and entranced beneath the star-lit expanse of heaven; when his passion for the beautiful is kindled by some master-piece of art, his happiness, transitory, probably even alloyed as it is, is no less a reality. Love is not a false and flattering tale when it means something more that the surprise of the senses, when it binds two hearts together in a living sympathy. It has an incomparable charm when it first unfolds in the soul like a flower bathed in the purest dew of morning. To say that it withers in possession, is to recognise only its lowest satisfaction. It possesses an immortal element, and the human heart owes to it some of its noblest joys.

The toil which fertilises with honest sweat the furrows of the various fields of human activity, brings with it a sober satisfaction. A good deed done gives as much joy as the violation of the moral law entails of deserved sorrow. The voluntary martyrs of heroism have tasted, in the brief instant which ended in death, a sort of inward rapture of reward which years of common-place living could not have brought. No sacrifice is ever made for the cause we have at heart, for country, for an idea, which does not bring in the very act a

happiness for which all the enjoyments of selfish ease would be a poor exchange. Pessimism is unfair, then, when it pronounces its anathema upon all life. Yet it is more nearly right than the superficial optimism which denies that there is any disorder, which regards evil as only the shadow necessary to the picture, or as merely the consequence of the limitation of created life. Optimism only aggravates the sorrow it professes to relieve. It arbitrarily ignores the problem; it does not solve it. No; we fully admit that life has bitter sorrows in its depths, that all joy falls before the mower's scythe while the early dew is scarcely dry upon it. Love is constantly wounded by death, or worse still, by life which ever comes short of its aspirations. We can form no idea to ourselves of the iniquities committed in the brief hours of a single day, of the wrongs that are covered by the darkness of one night. The purest among men have suffered most from their fellows. Saints and heroes have been crowned with thorns, scourged, slandered, sacrificed. There goes up from our earth a groaning which cannot be uttered—the confused burden of sorrows, nameless, numberless. What we want to know is, whether these facts really throw doubt on the First Cause, whether they are incompatible with design. Evidently, if pessimism is the end of all, if this is indeed the world's epitaph, we must conclude that the world was formed by a malevolent being, or that there is no order in it at all, that universal existence is only a game of chance or hazard. If Hartmann and Renan are right in affirming that good is all a delusion; if the philosophy of the Unconscious is justified in saying that the distinction between just and unjust belongs only to the transitory world of the individual, in which we appear for a few moments like the rainbow, which vanishes away with the clouds which it spanned with its seven-fold arch; then we can understand the subtle irony over the virtue by which we are deluded, indulged in by those whose finer perceptions see through the veil. If Hartmann was right in declaring that nature is immoral and that its blind author

makes no difference between good and bad actions, then M. Renan is justified in asking if the libertine is not really more reasonable than the man of austere life, and in concluding in a word that both are necessary to the *tout ensemble*, which is so amusing to contemplate. But if, on the contrary, Socrates and Kant were right in affirming the categorical imperative, if conscience has its law and to that law a sanction is attached, then all is changed. Then that which is behind the veil may be at once sublime and awful, then life has a meaning, a purpose. The world is not the result of a mistake, the outcome of that gloomy Unconscious, depicted to us as at once so wise in the lower sphere of life and so foolish in the higher, which it never willed to be, and which puts it to torture by forcing it to think. It is absolute good, infinite love, which rules. This is to be seen even now by its triumphs over evil. The Ruler of this world is not a Moloch without bowels of compassion, the impassible destroyer of life, only showing a preference when a head more noble than any other is to be laid low, when the best are to be made the victims of the worst; for if it is true that we track the footsteps of heroes and of the great pioneers of the world by their blood spilt upon the ground, there is not one drop of blood so shed which is not fruitful of good. Suffering would be incompatible with design only if it were useless. But to suffering we owe all that is most sublime in art, all that is grandest in human progress. If it be asserted that the very existence of suffering is an impeachment of Providence, we reply that this must at any rate depend on the source whence the suffering proceeds, whether from the caprice of the First Cause or from the act of the moral creature. Everything depends on our knowing whether such a creature exists, whether there is here on earth a free being, having a law, an ideal to strive after, and a will to conform himself to that ideal freely and without restraint, at his own peril and risk. When once the moral liberty of the moral creature is recognised, not only does the first Author of things appear justified in the fact

of suffering, but also He Himself appears to us as sovereign, infinite liberty, and we shall see at work in this world all the resources of the free love which has created and can restore it. Pessimism is condemned while we are saved on the other hand from the illusions of optimism. In the study of man himself we shall find the answer to these grave questions.[1]

[1] The question of pessimism is brilliantly and ingeniously treated in Mr. Mallock's book "Is Life worth Living?" The writer establishes very cleverly and poetically that the notion of good, whether expressed in positivism or in the new English psychology (two schools which he too much confounds), is equally vague and impotent, destitute as it is of the moral and religious idea. He concludes his book with an apology for the system of absolute authority, on the Ultramontane pattern, which has nothing to do with his main thesis. Compare an eloquent article by M. Caro "Sur le prix de la vie humaine." (*Revue des deux Mondes*, August, 1882).

BOOK THIRD.

THE PROBLEM OF BEING (continued).

MAN.

CHAPTER I.

MAN IN HIS TWOFOLD NATURE.

So far we have been looking at the world as a whole; and by applying to it the principle of causation, the legitimacy of which we have established, we have discovered in it constant traces of the action of a free and intelligent cause, which is at once supreme power and supreme wisdom. To this cause alone can we attribute the production of this wonderful cosmos, this organic whole, all the parts of which correspond to each other, which at every stage embodies a particular plan, a special design, the higher being always the end of the lower, till all these partial designs blend in the general harmony. This world which we know, finds its consummation in a strange, complex being, the weakest of all at the beginning of his life, the greatest when his full development is attained; sometimes the most vicious, often the image of the highest good; sometimes heroic, sometimes miserably debased. He alone interrogates the world that he may know its laws. He governs it, brings it into subjection, perfects it, in some measure by perfecting himself; for while other beings never get beyond the orbit to which they are bound by their physical conditions, he widens this orbit and opens to himself a career of unlimited progress, alike in the domain of intellect and nature. Nor does he pause even when he has reached the limits of this visible world, which seem to yield at his advance. This being is man. In order to ascertain his origin, we shall interrogate his physical, moral, and intellectual nature, considering him first as an

individual and then as a social being. To him we shall now apply that principle of causation which forbids us to derive the greater from the less.

We have already anticipated something of this great subject in treating the problem of knowledge, which brought man before us as an intellectual and moral being. We shall not repeat what has been already said on this preliminary question. We shall now look at man as his nature in its totality presents itself to us, as an object of knowledge. We shall not, indeed, be able to leave out of consideration his cognitive faculties, the very use of which is in itself a proof of his superiority; but we shall not have to deal again with the problem of certainty. What has been already said will greatly facilitate what remains to be said of the intellectual faculties of man.

I. Man, Physiologically Considered.

The mechanical explanation of the world as applied to man, presents special difficulties, which have not, however, deterred its advocates. Hæckel says: "The prevailing doctrine of design, or teleology, assumes that the phenomena of organic life, and in particular those of evolution, are explicable only by purposive causes, and that, on the other hand, they in no way admit of a mechanical explanation, that is, one based entirely on natural science. The most difficult problems in this respect which have been before us, and which seemed capable of solution only by means of teleology, are, however, precisely those which have been mechanically solved in the Theory of Descent." [1]

"The organic proceeds from the inorganic," says M. Lefèvre, the devoted disciple of Hæckel on anthropological questions. "Motion is the general state of the primary elements, the great factor of molecular combinations, which in their turn give to motion its modes and its infinite variety. To every

[1] "Evolution of Man," Hæckel, vol. i., p. 16.

motion there is a corresponding form or state, fluid, crystalline, or cellular, vegetable or animal organism, sensation, thought. The organic contains nothing more than the inorganic." [1]

We propose to show, in opposition to these monistic assertions, that they conflict with the best-established facts of anthropology. We shall not go beyond the domain of physiology. Our whole argument, drawn from general cosmo logy, acquires irresistible force as applied to the being who is unquestionably the crown of the world.

We shall show first, that while man rules the world from the height of his moral and intellectual life, he is, like all living creatures, subject to mechanical laws, that his privileged position as a free and responsible agent in no way exempts him from their operation, that he is as completely governed by them as the rock or the crystal. The physiology of the day has shown to what an extent life, in all its stages, depends on the physico-chemical laws, which are universally necessary to the exercise of its functions. Without the agents which depend on these laws, without water, heat, oxygen, the functions of life cease. We find life slumbering or awaking in the exact measure in which these physico-chemical conditions themselves exist, and this is the case with man no less than with the lowest animal or with the plant beneath his feet. The presence of an anæsthetic arrests the vegetation of a grain as it deadens the sensibility of a patient under an operation. It is this universal action of physico-chemical conditions upon all life, which has led M. Claude Bernard to formulate what he calls physiological determinism, no less invariable in its sphere than mechanical determinism.[2] Gravitation does not more certainly determine the motion of atoms than physico-chemical laws determine the conditions of physical life in its cessation and its development. This, however, can give no

[1] "Philosophie," Lefèvre, pp. 451–471.

[2] "Leçons sur les Phénomènes de la Vie," par Claude Bernard. Paris: 1878.

warrant for extending such determinism to existence which is not simply physical. Determinism, as Claude Bernard defines and applies it to physiology, is nothing else than a fresh affirmation of the supremacy of natural laws, that is to say, of that calculating and combining faculty which manifests itself in the apparent non-coherence and discreteness of matter. The more universal the law is shown to be, which determines in all existence, from the lowest to the highest, the phenomena which spring from it, the more able, wise, and far-sighted seems the thought by which the law was conceived. Matter, which is incapable of comprehending the calculations on which its combinations are based, must be at least as incapable of devising them.

Let us advance one step further. These mechanical, physico-chemical laws, which have so much influence over the development of physiological life, do not explain its production. This is true in relation to man as to the other creatures. However low his origin may be placed, even though it were in the lowliest protoplasm, still it is not the result of any mechanical motion or chemical combination. We have already shown this in a general way, in treating of the origin of life in the world. In the same book in which Claude Bernard dwells with so much emphasis upon the importance of physico-chemical conditions, making the human organism as completely dependent upon them as the most elementary organisms, he set aside, in the most peremptory manner, all that would imply the evolution of life as the result of a chemical synthesis. "It is no more possible," he says, "for the chemist to manufacture the simplest ferment than to produce an entire living organism."[1]

If life, even as it exists in the formless protoplasm which precedes the cell, cannot be referred to physico-chemical conditions, then Hæckel's mechanical explanation of the origin of man falls to the ground; the highest of organised existences

[1] "Leçons sur les Phénomènes de la Vie," Claude Bernard, p. 228.

will be no exception in this respect. The theory is still more untenable when applied, not simply to the production, but to the formation and specialisation of organic life. Physico-chemical conditions may indeed exert an influence on its manifestations, but they can never give it its cohesion and unity. This demands a directing thought, which shall determine the development of the living being by harmonising its various elements, with a view to the whole. "Matter that is living, independent, amorphous or monomorphous, is protoplasm. In it reside inherently the essential properties, viz., irritability, and the faculty of synthesis, which assimilates external matter, and creates organic products. It is not, however, yet, a living organism. It lacks the form which characterises a living and definite being. It is the matter of which the living ideal creature is formed, it is the basis of life; it presents life to us in the state of nudity, in that which is universal and persistent through all the variety of forms. The form which characterises the organism is not a consequence of the nature of the protoplasm. It is in complex organisms like man, that this formative action, obeying the governing idea, shows itself in all its energy. The complete organism is an aggregate of cells, in which the conditions of the life of each element are fulfilled, each element remaining subordinate to the whole. The living organism is an association of cells, or of elements more or less modified and grouped in tissues, organs, or systems. It is a vast mechanism resulting from the combination of secondary mechanisms. It is the subordination of the parts to the whole which makes of the complex organism a connected system, a whole, an individual. Thus unity is established in the living creature."[1] It follows that, in connexion with certain fixed physico-chemical conditions, we have in the living creature organic conditions, or preliminary laws, which enable it alternately to make use of these physico-chemical conditions in a manner

[1] "Leçons sur les Phénomènes de la Vie," pp. 352, 358–363.

adapted to its predetermined nature, and to react upon them. The higher the organism rises in the scale of life, the less is it controlled by its external environment. While vegetables and certain animals are so dependent on these conditions that their life may be suspended or become latent by the effect of atmospheric changes; while in others, higher in the scale, life is ever varying in consequence of this dependence, which still remains, though in a less degree; organisms of more perfect development have in themselves the physico-chemical conditions necessary to their life. They form a sort of invariable internal atmosphere for themselves in the midst of ever-changing cosmic conditions. "The perpetual changes in the cosmic elements do not affect them; they are not dependent on them; they are free and independent." [1] This internal equilibrium implies such a perfection of organism that external variations are immediately compensated and equalised. So far from the organism being indifferent to the outer world, it is, on the contrary, in most close and wisely adjusted relations with it, so that its equilibrium results from the continual and delicate compensation kept up by the most sensitive of balances. "In living organisms of this order, the nervous system regulates the harmony between the conditions necessary to its life, which do not differ from the conditions indispensable to all life." [2]

Thus in man, regarded simply from a physiological point of view, we find not only all the parts of the organism interlinked with a view to the whole, and the law of division of labour applied, as among the various classes of workmen in a factory or citizens in a community, but we also observe an admirable correspondence established between this organism and the great physico-chemical laws which govern the life of the cosmos; so that, without being an exception to these laws, the living creature is in some measure freed from them by its internal economy. As Claude Bernard says,[3] the human organ-

[1] "Leçons sur les Phénomènes de la Vie," Claude Bernard, p. 111.
[2] *Ibid.*, p. 113. [3] *Ibid.*

ism, by virtue of its marvellous construction, maintains the equilibrium necessary to its independence. The nervous system forms the compensating fly-wheel of the machinery, balancing losses and gains. Thus, to cite only one example,—water being an indispensable element in the constitution of the environment, in which the living organs are evolved and perform their functions, there ought to be found among animals such a general structural disposition as will provide for the regular maintenance of the necessary quantity of water in the system, whatever losses and gains occur. "The apparatus which provides for the loss and restoration of the quantity of water in the system is very complicated, and involves a number of different processes of secretion, exhalation, circulation. The mechanism varies, but the result produced is uniform, viz., the presence of water in a certain definite proportion in the internal organism, as the condition of the vital functions."[1]

We find organic devices equally complicated and wonderful subserving the function of heat-production, which consists in regulating the quantity of oxygen necessary to the manifestation of life, and others again for the purpose of alimentation and assimilation, by which the internal equilibrium is maintained.

Here is surely something very different from pure mechanism blind and purposeless. It matters little that the learned author of the "Leçons sur les Phénomènes de la Vie" relegates the question of final causes to the domain of metaphysics. A final cause is abundantly evident in these harmonies between the living organism and its cosmical environment. It can scarcely be needful to remark that all these results of absolutely impartial science apply, primarily, to man as the most perfect manifestation of organic life.

We can only refer to the numberless special treatises which draw our attention to the marvellous adaptation of the human organs to the two great functions of nutrition and of relation, and to the perfectness of that great controller of the physical life—

[1] "Leçons sur les Phénomènes de la Vie," Claude Berrard, p. 115.

the nervous system. The tribute paid by Bossuet and Fénélon to the human organism will never be surpassed, and the progress of physiological science since the 17th century only enhances its force. "Of all the works of nature," says Bossuet, "that in which design is most apparent, is man. Everything in the human body is disposed with marvellous skill. The delicacy of the parts, which are adjusted with inconceivable nicety, is yet compatible with solidity. The play of all the organs is as steady as it is easy. We can say with confidence then, that of all the proportions observed in organised bodies, those of the human frame are the most perfect and harmonious. Parts so well arranged, and all so adapted to the uses for which they are made, point to an economy and, if it is permissible to use the word, to a mechanism so admirable, that we cannot behold it without amazement, nor sufficiently admire the wisdom which has determined its laws. All the organs are so simple, the play of them is so easy, the structure so delicate, that every other machine seems coarse in comparison. No chisel, no lathe, no brush, can approach the softness with which nature fashions and finishes its workmanship."[1] We refer the reader to Fénélon's brilliant treatise on the existence of God, in which his admiration of the human body, which he calls the masterpiece of nature, rises to poetic rapture.[2]

We recognise in the human frame not only the evidence of a final cause which establishes the harmony of the parts and subordinates each part to the whole, keeping an exact proportion between the organs and their functions, but also the principle of a higher order which is called beauty, and to which pure mechanism must always be perfectly indifferent.

There is nothing more perfect than the human form in its higher types. The figure tall and erect, with that symmetry without stiffness which is peculiar to life, with that supple

[1] "De la Connaissance de Dieu et de Soi-même." Bossuet.
[2] "De l'Existence de Dieu." Fénélon.

grace which is the surest sign of force confident of itself; the arch of the mouth soft and flexible, as if quivering with the quick-coming words; the oval of the face harmoniously outlined; the brow broad and high—the temple of thought. *Os sublime dedit.* The eye, blue as the heaven on which it looks, or dark with the shadowy tones of deep lakes or lofty summits, is the living mirror reflecting the inner life, now tender with love, now kindling with anger, again catching a deeper, purer radiance from the mysterious world towards which it is strangely drawn. Smiling, such a face is like the breaking of the dawn; in sorrow it is grander still. And even where the features are less finely moulded, the stamp of intelligence gives a unique attraction to this animated clay. There are various phases of human beauty. There is the beauty of childhood—the blossom of humanity—with its charming indefiniteness of outline, its purity and freshness; there is the ideal type of feminine beauty as represented by Phidias, who caught the inspiration of his miracle in stone from the fair daughters of Greece; then there is the heroic, manly type of beauty, bearing the diadem of man's kingship upon its head. It is, indeed, rarely that these types of human beauty are seen in unalloyed perfection in our race, but they are none the less the realisation of the true ideal of humanity. Mechanism alone could never produce this delicate harmony, the proportions of which were never determined by geometrical laws. This Divine art exhibits the sovereign freedom which triumphs over inert and ponderous matter, subject to mechanical laws, by which alone such variety and beauty could never be evolved. The beauty of the human form is irradiated by the soul, as the alabaster vase shows through its transparent medium the light within. Thus the physical nature of man points us to his intellectual and moral being, for its chief beauty is derived from the expression of the moral life which it enshrines. Take away the glance, the smile, and we have in man himself only the beauty of the

plastic clay which we find everywhere in nature. It is so true that in human beauty the reflexion of the soul is the essential, that ugliness itself becomes beautiful when illumined by the flash of genius. "Who is that ugly man who becomes beautiful when he speaks?" was asked in reference to one of our most illustrious contemporaries. Everything moreover in plastic beauty itself, in the mould of the face and the forehead, is adapted to the intellectual life. Obviously it was intended in the modelling, that the head of man should be the principal organ.

II. Man, Intellectually and Morally Considered.

The organic life of man develops itself so as to become at once the instrument and the expression of the intellectual and moral life. This life is connected with the organism, and cannot dispense with it. But organic life, while it is thus the necessary condition of the intellectual and moral, is not its first principle or its end, any more than the physico-chemical conditions indispensable to organic life can be taken as its cause. Every fresh story in this great edifice of universal existence is superposed, in some sort, upon the story below, but it is built of materials not contained in that which preceded it. It comes out clearly, as it seems to us, from the study of psychological facts, in their relation with the physiological (a relation always very close under the conditions of the present life) that progress is measured by the growing predominance of the higher element, which yet is never disconnected from the lower. The soul, to use a familiar image, is not stationed in the body, like the pilot on the deck of the ship; it stands in a permanent relation to the body, while at the same time it is ever gaining greater power over it.

We shall have to show presently that this relation does not

imply that the two are at all confounded; but before entering on this question, we must give a description of the psychological life as it manifests itself to us directly.

All the activities of the soul are summed up in these three faculties—to know, to love, to will. Each of these has its history, its development; none is at first what it is to be afterwards. Man begins with purely instinctive life, without any clear consciousness of itself. In this phase, the individuality, the ego, the person, exists only in germ, and is not separable from indistinct impressions of which it is vaguely the subject. This instinctive life makes man in the first stage of his existence closely akin to the animal, though there are already indications of the essential difference which will ultimately appear between them. The newborn child is inferior in many respects to the young of lower animals, because it is by-and-by to possess intelligence. Indeed, at a very early age, reason begins to cast a faint gleam over the instinctive life. In the eye of an infant there is something very different from the keen bright orb of the deer or the colt. However this may be, it is certain that both in the infant and in the animal the instinctive life has a character of its own, which distinguishes it absolutely from simply organic life. To feel, to love, to will, even in the lowest degree, is something quite different from digestion, respiration, motion.

The plant lives. It constitutes a complete organism, but it never has any real sensation, any movement of affection, any impulse of the will. Mechanics does not account for the organism; the organism does not account for instinct, nor does instinct explain the true intellectual and moral life. In that period of man's physical life which Maine de Biran calls the *affective*, the soul does not properly distinguish between itself and its sensations. The ego only exists in a virtual state. It is governed by the sensations, affected and modified by them, and apparently submerged, like the swimmer who cannot lift his head above the rapid stream that is carrying

him along. He does not truly know, because he does not clearly distinguish himself from the object affecting him.

Instinctive knowledge is then only sensation more or less confused. The will, at this stage, is nothing but an impulse urging on to a blind movement, under the influence of the instinctive feeling which makes man seek the pleasant and avoid the painful.

Doubtless, before sensation, feeling, or will, is possible, there must be an act of concentration by which sensation is conveyed to the nervous centre, to produce reflex motion in the corresponding members, without which the living organism would remain inert. Doubtless, also, this concentrating action could not be produced by mere mechanical force; but during the period in which instinct predominates, we do not yet find the clear distinction between the subject and the object without which there is no conscious life, although instinct helps to foster it in the being in whom the higher life is latent. Instinct does not produce isolated motions only; it co-ordinates and directs them towards an end, a purpose of which instinct itself has no perception.

Man does not remain in this low stage of physical life, although instinct never ceases to play a part in his existence. The step by which man enters the higher ranks of existence is the act of willing, by which he distinguishes himself from things, the resistance of which he overcomes by force of volition. The first obstacle with which he has to contend is his own body, and he finds it needs an effort to make this bend to his will. That which resists is obviously not identical with the energy put forth to overcome it; the duality between the ego and the non-ego makes itself clear at once. The first, the most elementary act of willing, awakes the consciousness of the human person as distinct from outward things. Sensation pure and simple is left behind; perception begins. We are on the threshold of knowledge, which implies that the subject is distinct from the object, and that the ego is not carried along

by the tide of sensation. The swimmer gets his head above the stream. We need not say more on this subject, which has already been fully treated in the earlier chapters of the present work.

We have shown how, as soon as the ego has become distinguished from the non-ego by an effort, it carries this power of volition, by which it has overcome the resistance of the body, into the sphere of knowledge. Effort now rises into attention, which is an intellectual effort, then into reflexion, becoming ever more clearly conscious of its proper self, by virtue of these repeated acts of the will in which it asserts itself.

Not content with learning to recognise the outer world by differentiating himself from it, man takes knowledge of himself. He becomes conscious of his proper energy; he finds in himself all the *à prioristic* laws which constitute the essence of reason. His understanding becomes active; he compares, abstracts, generalises, and thus comes to apprehend unity in diversity, the universal in the manifold. Lastly, under the influence of the great principle of causation, which is the axis and fulcrum of the human mind, he rises to the cause of causes—the absolute.

We must not forget that all this grand development of intelligence began in the initial act of the will, manifested in the first effort, which, instead of remaining simply muscular, as in the animal kingdom, became intellectual. This does not imply that the intelligence, any more than the human personality, was produced by this act of the will. If it had not already existed virtually, with its laws and fundamental principles, all ready to be formulated as axioms, it could never have appeared. But in order to arouse it from its latent state, to make it pass from the virtual to the actual, there was still required that first manifestation of the will, which, by repetition and confirmation, rendered the subject the conscious master of himself. It is this contact of the subject, all en-

swathed as yet in the bands of instinct, with the resistant object, that strikes the first spark of the great light of reason; its first ray reveals the individual to himself.[1]

To rise from the passive to the active is the essential condition of psychological evolution. The will is then the central, the controlling faculty, that which constitutes the man, by enabling him to appropriate the treasures which lay buried in his mind in the period of unconsciousness. It is the will which rouses him to listen; for it is not enough simply to hear what we may call the moral *à priori*, the revelation of conscience, the immortal categorical imperative, which is to be the law, the rule, the inspiration of man's life. We know that the desire to listen to this law is the beginning of obedience; and when once this first and peremptory determination has been taken by the will, all that is contained implicitly in moral obligation becomes clear to it; and as the understanding has found God in its deepest thoughts, so the conscience recognises Him when it has got to the roots of its own life. Henceforth the will has a model before it; liberty is no longer an empty name; by the acceptance of the Divine law, it becomes a great reality.

The third sphere of the psychological life, or the life of feeling, comes under the same law. The life of the affections is also raised above instinct and the blind impulses of a state of passivity. It conceives of a higher life than one of alternate attraction and repulsion, governed by mere impulses of pleasure and pain. The life of the affections becomes that of voluntary, conscious love, the sublime assertion of individuality and of liberty, the life that is most its own when it gives itself away.

In this sphere again, true liberty comes through the acceptance of the Divine law of love; for God, the highest truth of the reason, the sacred rule of conscience, is also the

[1] See "Œuvres Philosophiques," Maine de Biran, vol. iii., p. 167. "Psychologie." Janet.

supreme object of affection, which finds in Him that which is worthiest to be loved. The individuality of man is so much the more assured, as he is not only raised above mere instinct, but also freed from the fetters of selfish egoism. The ego finds its completion in God; and in giving himself to God, man truly possesses his soul. At every stage of this evolution, when it is normally realized, the will is the great agent of progress. By means of it, man partially forms himself. *To will* is for him *to be* in the true sense of the word, for it is the only means of separating him from that which is not his true self, from that which keeps him in bondage, from that which Plato called *the other;* in a word, from the passive life which enshrouds the ego in a lower life foreign to its essential nature. Such appears to us the psychological evolution of the human ego. We have now to vindicate these assertions in view of the objections urged against them by other schools of thought.

CHAPTER II.

THE RELATIONS OF THE PHYSICAL AND THE MORAL

MATERIALISM has in all ages pretended to explain the intellectual superiority of man by his higher physical organism. It attempts to establish an exact correlation between the two. His upright posture and the delicate articulations of his hand would at once have assured his pre-eminence in the animal kingdom; but that which most of all places him at an advantage, is the admirable organisation of his brain. If he thinks, he is indebted for the power of thought to this wonderful organ.

Let us inquire if duly ascertained facts bear out these assertions. Here again we must draw attention to the distinction so often ignored, between the conditions of existence and its essential principle. We admit most categorically that the psychical, intellectual, and moral life of man is connected with his physical life; that the former cannot exist without the latter, at least under present conditions; in a word, that there is mutual interaction between the two. But we must not, as is too often done, suppose that there is only one kind of interaction—that of the physical upon the moral nature—forgetting that the moral exerts an equally powerful influence upon the physical. A thought, a feeling, not originating in any outward stimulus, gives a sudden impulse to the circulation, or seems to stop the beating of the heart as certainly as a change in the brain tissue helps or hinders intellectual work. It is contrary to the best authenticated facts to recognise only the influence of the physical on the moral, without admitting the

converse. We endorse all Mr. Bain's acute and just observations on this subject in his interesting book.[1] With perfect justice, and taking as his data very carefully made experiments, he shows that sensation, like thought, is governed by certain constant laws; that both require the stimulus of a change to make them conscious of things within their competence, and that both the one and the other acquire increased intensity in proportion to the more extended sphere in which they are exercised, giving scope for more numerous comparisons. Only Mr. Bain carries too far this parallelism between the physical and the moral. The will he regards as nothing more than the instinct which urges man to seek pleasure and to flee pain. He thus ignores the true character of this important quality, which raises instinctive to reflective and conscious life.

His analysis of the reason is altogether inadequate. He ignores its highest operations, those which rise from the particular to the general and universal. Memory is only an accumulation of nervous vibrations. Every intellectual acquisition is connected with an independent nerve fibre. Here we have no longer the union of the mind with the body; but the absorption of the mind in the body. It is impossible to understand how, after such conclusions, the author can maintain that the proper characteristic of the mind is want of extension, while matter always has extension. This proposition is hard to reconcile with the following declaration: "The one substance, with two sets of properties, two sides, the physical and the mental,—a *double-faced unity*,—would appear to comply with all the exigencies of the case."[2]

This is certainly an easy way of settling the difficulty, for Bain has not really reconciled the two terms of the problem, but has rather sacrificed the psychical life entirely to the physical. He has even gone so far as to say that the mind is completely at the mercy of the body. Yet he seems to feel

[1] "Mind and Body." Alexander Bain

[2] *Ibid.*, p. 196.

the insufficiency of his theory, as the following passage indicates. "We have something beyond the usual endowments of natural things, in the possibility of storing up in three pounds' weight of a fatty and albuminous tissue done into fine threads and corpuscles, all these complicated groupings that make our natural and acquired aptitudes and all our knowledge. If there were sermons in stones, we should be less astonished when they proceed from brains."[1]

I. The Brain and Thought.

Pure materialists see no difficulty in finding sermons in stones, or in finding the whole intellectual life contained in "three pounds' weight of a fatty and albuminous tissue." This is brought out very clearly in the learned writings of Luys, Maudsley, and Bastian.[2] Let us briefly give the outlines of this important question of the relations of the brain and thought. "The brain, or upper expansion of the spinal cord, and chief organ of the central nervous life, is ovoid in form, the larger end being anterior and cleft into two symmetrical hemispheres united by the *corpus callosum*. Each hemisphere is divided into four regions or lobes. Its surface is covered with complicated furrows and ridges, called the convolutions. The spinal cord, as it joins the base of the brain, expands into the *medulla oblongata*, and this divides into two prolongations, the *crura cerebri*, one passing into each hemisphere. At the base are seated two very important pairs of prominences, the *corpora striata* and the *optic thalami*. In cross-section the brain is seen to be made up of two distinct substances, the grey and the white. The grey matter surrounds the

[1] "Mind and Body," Alexander Bain, p. 89.

[2] "The Brain and its Functions," Luys; "The Philosophy of Mind," Maudsley; "The Brain as an Organ of Mind," Bastian. Dr. Bastian works out the psychological and physiological theories of Herbert Spencer, applying to the brain and to thought the principle of progress by growing differentiation

central canal of the cerebro-spinal axis, it forms the surface or cortical layer of the *cerebrum* and *cerebellum*. Its essential constituent is the nerve or ganglion cell. The white substance makes up the body of the lobes, and forms the peripheral parts of the spinal cord. Its essential constituent is the nerve fibre."[1]

Luys and Maudsley both hold that the whole intellectual and moral life of man is explained by the physical operations of the brain. It proceeds entirely from the properties of the nervous elements inherent in the brain without the intervention at any stage of an agent of a higher order. These properties may be classed under three heads: First.—Sensibility, by virtue of which the central cell comes into contact with its environment. Second.—Organic 'phosphorescence,' which gives it the property of storing up in itself and retaining the sensory vibrations, as in the inorganic world we see phosphorescent bodies retain for a longer or shorter time traces of the luminous vibrations which have passed through them. Third.—*Automatism*, or the aptitude possessed by the nervous cell of reacting on its environment whenever it has received an impression from it.

It is by the combination of these properties and the summation of their energies that the brain feels, remembers, and reacts. "Sensibility is always the first step towards motility, and is the preliminary to all movement. After being conducted through the sensory-motor mechanism of the *cortex*, it is transformed insensibly into motive power, and is manifested at length as a motor act remote from the nervous centre."[2]

It is clear that everything is traced back to sensation, that is to say to the action of the outer world. "The various processes of the action of the brain are all comprised in a

[1] I take this description of the brain from Dr. Surbler's article in the "Correspondent," April 10th, 1881.

[2] "The Brain and its Functions," Luys, preface, pp. viii., ix.

cyclic motion of absorption and restitution of force. It is the outer world with all its various stimuli which finds an entrance, by means of the senses, under the form of sense-excitation; and it is this same outer world, modified and refracted by its close contact with the living tissues through which it has passed, which emerges from the organism and finds its external reflexion in the various manifestations of voluntary motion." [1]

All spontaneity, all proper activity, all free-will, is thus set aside, the voluntary act being nothing more than the reaction of sensibility. It is sensibility which, being everywhere present and everywhere vibrating, inspires our words, our writings, our acts, following the instinctive appetites which determine its attractions and repulsions.[2] Personal interest is the sole motive of human conduct, the all-powerful magnet which guides it; self-devotion is but a disguised form of egoism. It is easy to imagine what the personality becomes in such a system. The unity of the ego is nothing more than the accord into which all outward stimuli are automatically attuned, when, after traversing the series of connected cells forming the *cortex*, they reach the common *locus* which acts as a great receiver-general. This receiving area, localised in the region of the *corpora striata* and *optic thalami*, may be called the *sensorium commune*. Past and present stimuli are blended in this living receptacle; it is like an animated piano which harmonises all its tones into one accord.[3]

Maudsley arrives at the very same conclusions. To him mind is only a generalisation, a metaphysical abstraction of the nervous and cerebral phenomena. Mental activity depends absolutely on the structure and nutrition of the brain. The history of intelligence is identical with that of the nervous system; it is in exact relation with the cerebral

[1] "The Brain and its Functions," Luys, p. 258.
[2] *Ibid.*, p. 255. [3] *Ibid.*, p. 121.

convolutions. The differences between man and the animal are in exact correspondence with the development of the physical organ of thought. The unity of the consciousness is explained by the union of the two cerebral hemispheres. The ego is nothing more than the unity of the organism. Further, consciousness is not the essential factor of mind, it is only a secondary attribute. The nervous centres are the seat at once of the ideas, the emotions, and the will; without there being any necessity to attempt a definite specialisation of the various modes of cerebral activity in the cortical layers. The activity which begins in the posterior convolutions, communicates itself to the anterior, where it is transformed into acts and words.[1] Maudsley concludes by congratulating himself on having succeeded in altogether eliminating internal experience, so as to arrive at the true facts of consciousness. Dr. Bastian, in the last chapter of his book on the brain and mind, affirms that intelligence ought to proceed from the organic life; otherwise we are compelled to leave the simple natural way, and to admit a supernatural element, that is to say, to proceed on another principle than simple natural development; which is always purely physical and mechanical. It is true that the author recognises that the experimental proof of this *processus* is still wanting, and he formulates his conclusion as a sort of postulate.

We can easily imagine how, following in the steps of these eminent physiologists, and taking advantage of their great labours, without investigating them, the daring popularisers of materialistic doctrines vaunt in tones of triumph their assertions of the identity of the brain and thought. "The organism is the man himself," says M. André Lefèvre. "Intelligence is the result of organic phenomena. Consciousness begins only in an annular protuberance, in which the *fasciculi* of the *medulla* meet."[2] "The grey matter of the

[1] "The Physiology of Mind." Maudsley.
[2] "Philosophie," Lefèvre, pp. 313, 320.

cortex," says M. Létourneau, "is the conscious and thinking part; thought is only a function of the nervous centres." [1]

We have a brief refutation to offer to these sweeping assertions of materialism as to the close connexion between mind and the brain. First of all, we dispute the conclusions drawn from purely physiological experiments, even when perfected by the fullest aid of vivisection. "Physiological experiment," as is well said by M. de Broglie in his book on Positivism, "is always brought to bear on the instrument of the mind, and on that instrument alone. Neither the mind (in the most materialistic conception of it) nor its operation is ever revealed by the scalpel; it is perceived solely by internal observation, which differs *in toto* from external experiment. The latter, moreover, can only be applied to the brains of animals, and to these only in a dead or inactive state. To say that the brain thinks because a certain correlation is observable between thought and the physical condition of the brain, is to demand from external experiment that which it is not competent to give; for thought, by its method and essential nature, eludes it." [2] Internal phenomena, from their very nature, cannot be either seen or touched; the scalpel and the microscope alike fail to reveal them, they can only be perceived by one faculty—consciousness.

If it is maintained that external experiment is at least competent to localise the operations of the intellect, by showing how the mental faculties are impaired in animals which have undergone the mutilation of some particular part of the brain, we reply, first, that this localisation is gravely contested with reference to properly intellectual operations. It is only ascertained certainly with regard to sensation and motion. Dr. Surbler, in a learned article in which he sums up the latest results of science in relation to cerebral localisation, says; "The brain as a whole is an organ of motion and of sensi-

[1] "Science et Matérialisme," Létourneau.
[2] "Le Positivisme," M. l'Abbé de Broglie, p. 241.

bility. The intelligence, which old physiologists localised in the cortical layers, is no longer believed to reside there; its relative independence and peculiar nature are now recognised." Physiologists who are the most decided in the opinion that the intellectual life is merely an operation of the brain, have acknowledged that it is impossible to localise distinctly its various functions. M. Luys says: "So far, it has been found wholly impossible to arrive at exact statements of the real constitution and topographical situation of the field of intellectual activity, properly so called."[1] Maudsley says: "In the present state of physiological science, it is quite impossible to ascertain by observation and experiment the nature of those organic processes which are the bodily conditions of mental phenomena."[2] Even supposing that the localisation of the intellectual operations in the brain were demonstrated —which it is not—it would simply argue a greater dependence of the mental function in relation to its organ; the assimilation between the function and the organ would be in no degree proved. It is certain that the brain can act with only one of its hemispheres. M. Henri de Varigny says: "Lesions affecting only one of the cerebral hemispheres generally remain latent. There is no sign indicative of the pathological disturbance, and one seems almost forced to admit in such a case functional substitution, that is to say, the possibility of the regular operation of two homologous sensitive regions, in spite of the absence of one of the two corresponding cerebral centres."[3] M. de Varigny lays stress on the insufficiency of the observations hitherto made to verify the localisation of the intellectual faculties; but the objection thus raised is nevertheless a very grave one. Taking his stand on Dr. Ferrier's experiments, he seems, however, much inclined to admit the localisation of the intellectual faculties,

[1] "The Brain and its Functions," Luys, p. 181.
[2] "The Physiology of Mind," Maudsley, p. 12.
[3] "Revue des Deux Mondes," Oct. 15, 1880.

while at the same time acknowledging that experimental science is very far from having attained certainty on the point. "More facts," he says, "are necessary. Those we possess only constitute a strong presumption."

To conclude. We do not call in question the relations of the moral to the physical; it is their identity only we dispute. Unless it be maintained that if two forces come in contact with each other the one must become lost in the other, the undoubted fact of the close relations between intellect and the brain does not justify us in concluding that they are one and the same.

Materialism thinks it has triumphantly established its point by applying to thought the principle of the transformation of energy, and affirming that, just as the vibrations of the ether are transformed into light and heat, they may in the brain be transformed into thought. But, as M. Janet observes very justly, when motion is transformed into light or heat, there is no real transformation, since the result still consists of vibrations of the same ether. Transformation only really begins with the sensation of light or of heat, for this is a purely subjective fact which it is impossible to reduce to motion. This induction seems far more impossible when it is not merely sensation but thought which is to be produced. To apply to the production of thought the theory of the transformation of fluid-motions, is a mere make-shift.

We are thus brought to the decisive invincible objection to the unification of the mind and brain, I mean to the radical impossibility of rationally identifying motion with the consciousness of motion, for all thought translates itself into consciousness of an event, whether physical or moral. A molecular vibration is one thing, the feeling of that vibration is another. M. Luys has not made the slightest attempt to establish by argument that vibration is conscious of itself. His detailed, often brilliant, descriptions of the nervous organism in its convolutions, its complications, and in its

central seat, give no proof at all that this nervous system is capable of producing simultaneously two entirely different things—motion and the consciousness of motion. There is nothing to add to the emphatic declarations of the most eminent physiologists of our age on this subject. "We may succeed," says Ferrier, "in determining the exact nature of the molecular changes which take place in the cerebral cell when a sensation is experienced, but this will not bring us one step nearer to the explanation of the fundamental nature of that which constitutes sensation."[1] Professor Potain says: "We are profoundly ignorant of the nature of the relation which subsists between the production of the intellectual phenomena and the functions of the cells of the cortical layers."[2]

Another eminent physiologist, Professor Griesinger, says: "How a material physical phenomenon, taking place in the nervous fibres or ganglion cells, can become an idea, an act of consciousness, is absolutely incomprehensible."[3] Materialism has often insisted upon the constant coincidence existing between psychical effort and internal work in the brain, producing a corresponding amount of heat. M. Gavaret asks: "What relation is there between combustion and a psychical manifestation? What common measure can we find between a certain quantity of heat consumed, and a thought given out or simply conceived? So long as this common measure is not found and clearly demonstrated, we shall not feel ourselves warranted to affirm that cerebral work and the corresponding psychical manifestation differ only in form, that both efforts are essentially of the same nature, and that the former is the adequate cause of the latter."[4] M. Charles Dollfus well says:

1 "Functions of the Brain." Ferrier.

2 "Encyclopédie des Sciences Médicales, Pathologie du Cerveau," vol. xiv., book 1.

3 "Traité des Maladies Mentales."

4 "Les Phénomènes Physiques de la Vie," Gavaret.

"If my body were the same thing as that which perceives my body, how could I perceive it? I should have to say, 'My head has the head-ache.'"[1]

The idea of mind is not exhausted by the fact of the consciousness of motion; it has also consciousness of itself; it feels itself a unity capable of controlling the diversity of phenomena —a persistent unity. How could this consciousness of a persistent ego be produced by a material organ, essentially multiple, and divisible even in its finest and most delicate parts? How could the unity and simplicity of the ego be evolved from this aggregate of innumerable cells? It is not possible to derive an indivisible consciousness from a divisible aggregate. The brain, the organ of thought, no more thinks than the eye, the organ of vision, sees.[2]

Nothing is gained by speaking of that *sensorium commune* in which the unity of the ego is mechanically effected, for this sensorium is itself simply a compound of thousands of atoms; it can only give that which it has, namely, the very opposite of unity. There is not one operation of the mind which does not imply a power of unification. To generalise, to abstract, to compare, to conceive the universal, all these various modes of its higher activity imply that it is superior to the multiple and the diverse, that is to say, to the unalterable conditions of matter, and consequently that it cannot be identified with any material organ, even with the most perfect of all—the brain. The *sensorium commune*, of which M. Luys speaks, reminds one of the famous comparisons which Diderot makes in his "Rêve de d'Alembert," between the nervous network, the living register of all sensations, and the spider, who, seated in the centre of his web, feels the oscillation of the finest fibre, and by his movements shows that he is aware of all that is going on in every corner of his domicile. The analogy is wholly misleading. In truth, the spider is distinct from the fibres of

[1] "L'Ame dans ses Phénomènes de Conscience," Charles Dollfus, p. 28.
[2] *Ibid.*

his web, while, as M. Caro justly observes, the nervous network is only an aggregate of molecules which form part of our own substance. "By what privilege of a central position does it become the register of our sensations? When from all the extremities of the nervous network, sense-impressions, isolated and successive, without the power of recalling anything, have been transmitted to the common centre, how can they transform themselves into one identical, continuous consciousness, and become in the man the principle of the highest faculties of abstraction, reasoning, and invention?"[1]

The distinction between the mind and the brain does not throw any doubt on the fact of their correlation. That correlation is obvious; the mind cannot carry on its operations without the brain, any more than the musician can perform without his instrument. Only the correlation must not be exaggerated. Gall's phrenology, which established an exact correspondence between the form of the cranium and the intellectual faculties, has long been abandoned. It has been proved that the external conformation of the brain does not correspond to its internal conformation, that it conceals rather than exhibits it. Experimenters then fell back upon the weight and measurements of the cranium, for arriving at which most ingenious appliances were contrived. The cranial capacity alone proves nothing, for, according to recent cubic measurements, the Kanaka would be on the same level as the Irishman, and English women would be below Chinese women or the negresses of Dahomey.[2] According to M. Broca's cubic measurement, the Esquimaux would have the same cranial volume as Parisians (Parisians, 1558; Esquimaux, 1539). The weight of the brain furnishes no more conclusive results than the measurements of cranial capacity, even where the proportion of the brain to the height and weight of the animal

[1] "La Fin d'un Siècle," Caro, vol. iii., p. 230.

[2] Kanakas, 1470 c.c.; Irishmen, 1472 c.c. Dahomey negresses, 1249; English women, 1222.

has been determined. In man, the proportion is 2 to 47; in the dolphin, 1 to 66; in the elephant, 1 to 500; in the striated monkey, 1 to 28; in the canary, 1 to 14.

It is certainly impossible to reckon the intelligence of the dolphin above that of the elephant; and of the striated monkey and the canary above that of man. Naturalists have restricted themselves therefore to making the weight of the brain the measure of mental development only in the human species. We are told of the weight of brain of celebrated men, which exceeds the average weight,—1510 grammes. The brain of Cuvier weighed 1831 grammes, but against this is set a brain found in the war in America, which weighed 1842 grammes. This test is a very difficult one to apply, for so much depends on the age and the state of health of the individuals whose brains are weighed. There is nothing decisive in the comparison of the weight of human brains belonging to different races. In the matter of weight, the advantage would seem to be with the negro. Negresses, in this respect, are above French women (1232 grammes, against 1210). A comparison of the cerebral convolutions leaves us equally at fault. We find smooth non-convoluted brains in animals remarkable for their instinct, such as the squirrel and the rat. The sheep has the advantage over the dog in the matter of convolutions; and in cerebral ridges and furrows, the ass carries the palm.[1] The importance attached by Moleschott to the amount of phosphorus in the composition of the brain, is disproved by undeniable facts, as for instance, that this substance abounds in the brain of fishes.[2]

The volume of the frontal lobes fails in like manner to supply a decisive criterion; there have been men of high intelligence, like Lacépède, with receding foreheads. Dr. Lelut has shown that the frontal region is more developed in imbeciles than in men of average intelligence. In the most marked cases of

[1] See Dr. Surbler's article in the "Correspondant," April, 1881.
[2] "Le Cerveau et la Pensée," Janet, p. 58.

mental aberration, there is no evidence of cerebral lesions, except when special nervous disorders, like paralysis, have supervened.[1] M. Topinard attributes the development of intelligence to the increase in thickness of the grey matter of the cortex and to its improvement in quality. The drawback to this criterion is, that it cannot be applied; for there is no instrument capable of appraising the amelioration of the quality of the grey matter of the cortex.

That which appears to us decisive on this question of the relative independence of the mind and the brain, is the very slight difference which, as M. Broca tells us, exists between the brain of man and that of anthropoid apes. In his paper on the order of Primates read to the Anthropological Society, he says, "I have just passed in review all the anatomical and morphological characteristics, by means of which it has been attempted to distinguish the human type of brain from that of the other Primates. These distinguishing characteristics are sometimes altogether illusory, and sometimes so faint that they leave but a very small interval between man and the anthropoids. It was never more evident that from a zoological point of view, man differs less from certain monkeys that these differ from other monkeys."[2] No one, I think, will dispute that an immeasurable interval divides man intellectually from the anthropoids whose brain bears such testimony in their favour. Could there be a more decisive proof of the disproportion between the organ of the mind and the mind itself? The brain of the monkey,—a creature wholly subject to its grosser instincts, incapable of progress, leading a purely animal life in the thick forests which resound with its inarticulate chatter,—is almost identical with that of man, the king of creation. Who will dare still to maintain that the progress of thought is to be measured by the development of its organ? How can we fail to feel the force of the conclusion

[1] "Le Cerveau et la Pensée," Janet, chap. iv.

[2] 'Mémoires d'Anthropologie Zoologique et Biologique," Broca, p. 139.

of an illustrious *savant*, quoted by M. Broca. ("Man, by his form, his structure, by the general disposition of his organs, is a monkey; but by his intelligence, by the creations of his thought, man is a god.") Without raising man to such a height as this, we feel that thought certainly cannot be confounded with its physical organ, though, under the present conditions of man's life it is linked to it, and depends for its normal operation on the soundness and perfection of the cerebral organism. All we contend for is, that this dependence should be recognised as only relative; then the dignity of intellect is maintained, and it cannot be made contingent in its essence on a purely material accident, such as a cerebral lesion, or that complete breaking up of the physical organism which we call death.[1]

II. Objections drawn from the Idea of Motion.

After having assimilated thought to cerebral motion, the materialist's next step is to reduce motion to pure mechanism, thus eliminating every spiritual element from man and transforming the will into a mere mechanical revolution governed by laws of physical necessity. Man is denuded of all spirituality, all free will, and is held in passive subordination to the laws of matter. It is this idea of motion which we propose now to analyse, to ascertain if it corresponds to the reality.

[1] We cannot too cordially commend to our readers M. Janet's excellent work on this question: "Le Cerveau et la Pensée." See also M. Manouvrier's article on the weight of the encephalon ("Revue Scientifique," June 2, 1882). The writer insists on the necessity, in taking measurements of the brain, of observing the various elements, such as the proportion to the stature and the pathological condition. He points out that inferior races of high stature surpass the more civilized races in cranial capacity. "Intellect," he says, "is not to be measured by the relative weight any more than by the absolute weight of the encephalon." He holds nevertheless, that there is a close correlation between the brain and thought; but this correlation can be in no sense absolute after the admission quoted above.

The objection we have to meet presents itself under two forms; the first is based upon reflex action, and the second upon the application to man of the well-known law of the conservation of energy. We shall look at both objections.

Reflex motion is mechanical motion, which is produced, without our being conscious of it, by the influence of external excitation. A man who lays his hand upon a burning body withdraws it instinctively, without thinking or willing the act of withdrawal. In this case there is an exact proportion between the external exciting cause and the motion produced. Even when the nervous centre of sensation has been removed, as when a frog has been beheaded, the nerves, if subjected to electrical excitation, will produce motions precisely similar to those of perfect life. Hence it is concluded that motion in the living creature is in itself nothing more than the external restitution of the primary external motion. The nervous system has received impressions which it has restored under the influence of excitement; this is reflex motion, that is to say, essential, typical reflex action. For however various and complex they may seem to be, the functions of the nervous system are always associated with the simple and elementary form which constitutes reflex motion. Thought, which is itself also motion, becomes, by the proper activity of the animal, purely a transformation of the actual motion of external matter. In the case of cerebral as of all other motion, there is perfect equation between the motion imparted and the motion returned.

We have two arguments to urge against this theory of motion.[1] There is no adequate reason for recognising no motion but reflex motion, and for determining the true character and idea of motion by its lowest type. By what right is every other form of motion ignored, in which we perceive between

[1] See Dr. Chauffard's chapter on "La Spontanéité, Vivante et le Mouvement," in his book, "La Vie, Études des Problèmes de Physiologie Générale."

the external excitation and its restitution the fact of conscious sensation, of deliberation and resolution? The rapidity of these successive acts does not affect the question; time is no element in it. As M. de Broglie says: "Deliberate and conscious movement is composed of three parts:—

"First.—A physiological circuit, which passes through the organs of the senses, ascends the sensitive nerve, reaches the brain, and produces sensation. Second.—A psychological circuit, which begins with sensation, is continued in perception and deliberation, and terminates in resolution. Third.—A second physiological circuit, which, starting from the brain, runs through the motor nerves, and ends in movement." [1]

What right can the theorists of motion have to pass over in absolute silence the psychological circuit on the pretext that it is not always traceable? Is not conscious effort itself the attestation of the intellect and the will? There is then unquestionably another mode of motion than reflex motion, even when there has been external excitation. And it is far more evident when the impulse has come from within, not from without. In addition to mechanical motion, there is spontaneous motion, which in man is governed by reason and deliberation. The character of this spontaneous motion we shall have to determine.

Further: reflex motion itself cannot be identified with purely mechanical motion. In fact, it is the permanent characteristic of the latter, that it always bears an exact proportion to its stimulation, and cannot render either more or less than it has received. As soon as there is disproportion between the stimulus received and the motion returned, we are taken out of the sphere of pure mechanism. For instance, to revert to the example so frequently quoted, it is certain that the decapitated frog does not act under external excitation in the same way as the living frog. The dead frog, when slightly pinched, draws in its foot; the living frog, under the same

[1] "Le Positivisme," vol. i., p. 254. M. l'Abbé de Broglie.

treatment, takes a leap and gets out of the way of the experimenter. We find a difference then in the two experiments, in the proportion between the motion received and that returned. We constantly find, also, that a very slight motion produces a very strong impression. The gentlest tickling causes violent contortions. A strong reaction, as Gratiolet observed, may follow a very slight stimulation, and vice versâ. The nervous arc is not then a mere conductor. We must allow some share to spontaneity even in reflex motion.[1]

Lastly, reflex motion in the living organism always tends to safety; it obeys the instinct of self-preservation. Now, tendency to an end and mere mechanical action, are incompatible ideas. Hence, reflex motion raises us above mere mechanical action, and gives a pre-intimation of the truly spontaneous motion proper to the living organism.

It is easy to prove that spontaneous motion differs *in toto* from purely mechanical motion. We observe, first, that mechanical motion cannot be interrupted; external excitation, once produced in the nervous centres, must be given back without delay in the form of motion. Now, in the living organism, there are constant pauses in motion. Motion may be latent even in a plant or an animal of the lower orders, as is shown by the familiar phenomenon of revivification. We all know that vegetables kept in some dark place, from which air, sun, and moisture are excluded, like the plants found in the Egyptian pyramids, come to life again whenever they meet with the atmospheric conditions necessary to their growth. There is, therefore, something more than mechanical motion in the vegetable. The slow incubation of morbific germs points to the same conclusion. Further, motion in the living organism, and specially in man, is stored up in a potential state. It is only partially realised at irregular intervals.

This fact of potentiality is altogether incompatible with

[1] "La Vie: Étude des Problèmes de Physiologie Générale," Chauffard, p. 255.

purely mechanical laws, according to which the atomic changes of position succeed each other without interruption. It follows that spontaneous motion is accelerated, retarded, or interrupted by causes not regulated by simply mathematical laws. The fact is, that in man, as in all the living organisms, motion does not depend solely upon external excitation, but also upon the internal condition of the subject. Thus it is recognised that habit largely diminishes the intensity of a shock received from the outer world. Sensibility becomes deadened, and the reactions produced are not in proportion to the external impulse. Fatigue produces the same effect. Distraction of mind often nullifies external stimuli which ought to produce paroxysmal reactions of sensation under the form of motion. There is not then a correspondence between the shock received and the motion produced; and this alone is enough to carry us into another sphere than that of pure mechanics.

The higher the living organism rises in the scale of being, the more this spontaneity of motion, which is at first feeble, and is almost imperceptible in quite the lower orders, becomes strong and decided. The subject of external stimuli is less and less passive, its proper activity diminishes and modifies the impulse received, just in the proportion in which it becomes self-possessed or conscious of itself. When the living organism is a moral being, like man, he controls the impulse from without, though he never shakes off its influence, which is necessary in order to supply the materials of sensation. The will, guided by the moral consciousness, can control the impulse of passion, even when it is most strongly excited by the stimulation of the senses.

According to the mechanical theory, the stone which hits and wounds us, ought to produce an irritation exactly corresponding to the force of the blow received. Our anger at the blow ought to be always in precise ratio to the shock received, and ought to express itself in violent acts administered in the same measure, to appease our irritation. But such a theory is

constantly belied by facts. Let the spirit of forgiveness interpose, and the hand remains motionless, and there is no rendering again the motion received. Moral energy perpetually modifies the proportion between the impulse which comes to us from without, and the action which ought to be its exact restitution. Lastly, how many motions have their origin in the subject himself, and cannot be referred to any external impulse. All the acts which are the result of reflexion are of this class; they attest our independence of mechanical laws, and completely disprove the theory which would subordinate us unreservedly to them. Here again we find the distinction between quantity and quality. Quantity alone is absolutely subject to mechanical law, while quality brings with it the possibility of escaping from the mechanical law while still recognising its supremacy in its proper sphere.

If, passing from generalities, we turn to man specially, we shall find these objections acquiring new force. We refer the reader to M. Ernest Naville's admirable article in the "Revue Philosophique" of March, 1879, entitled, "La Physique et la Morale." He shows that, supposing motion to remain the same in quantity,—which the law of the conservation of energy requires,—it may be modified in its direction both in space and time. Is it not certain that a locomotive placed on a horizontal line of rail may take one direction or another, while the force which impels it remains the same? If it is said that it is still motion modifying the direction of motion, and that we are thus still within mechanical laws, we reply, that it is inexact to say that all energy is motion, that all motion has an anterior motion as its cause; take, for instance, chemical affinity or attraction. The force of resistance which is in the body and which modifies the pre-existing motion, is not the cause of any impulse. Thus motion may be modified in its direction by a force which is not mechanical. In the case of the living organism, the plastic force of which we have so often spoken constantly changes, as Claude Bernard tells us, the direction of its physical

motions without altering their quantity. These directing and not creating forces make various uses of physical motion, the sum of which remains the same. It follows that the conservation of energy presents no obstacle to the admission of plastic forces, which, without being motion, are causes of motion. Hence, while admitting that everything in the human body is subject to physiological determinism, it is enough for the maintenance of free-will, that there are elements of liberty in that which controls the phenomena. It matters nothing that man can only dispose of the quantity of force which he derives from food, air, and sunshine; it is enough that he has the free disposition of this to make him responsible for his acts. Freedom of action is possible when once we recognise as belonging to the will, that obvious power of direction in living germs, which does not change the sum of motion.

What we have said of space applies equally to time. That which remains in fixed quantity is not actual motion, it is the power to produce motion. I do not create energy, but I dispose of that which I possess, and I dispose of it whenever I please. It follows that if freedom of action and responsibility exist, the law of conservation of energy can argue nothing against them.

M. Naville sums up his argument in these words. "What remains to the will? In the creation of energy, *nothing;* in its direction, *everything.* This is enough for the moral world."[1]

[1] A learned philosopher, M. Boussinesq, has endeavoured to vindicate the part of free-will in opposition to purely mechanical laws, by turning to account a well-known geometrical theory known as that of "singular solutions." "According to this theory," says M. Boussinesq, "there would be cases of complete mechanical indeterminateness, that is to say, cases in which a moving body, having arrived at certain points, called by the author *points of bifurcation*, might indifferently take any one of two or more directions, and would in either case satisfy the law of motion. It is obvious that on such a supposition, an extra physical extra-mechanical action may be the directing power."—M. Janet's review of M. Boussinesq's work. See two important articles by M. Renouvier on this subject in the "Critique Philosophique," June 7 and July 1, 1882.

To conclude. In relation to the will, as to thought, we do not poise the physical life on the ether. We do not separate it from the physiological life and from the nervous organism necessary to the production of the act, as to the production of thought. Mechanical laws may be accepted as one of the conditions of the higher life, without detriment to that higher life, if only it is understood that they are not its cause and that they can be modified in their application.

We fully admit that both action and thought are impossible without a process in the brain by which heat is disengaged; only thought does not stand in absolute relation to cerebral effort, so that the more intense the cerebral effort, the more elevated the thought. The brain of an ignoramus who learns with a painful struggle, is just as much heated, probably more so, than that of a Shakspeare or a Corneille in producing a masterpiece with the sublime ease of genius. The "Phèdre" of Pradon was conceived under the same physiological conditions as that of Racine. The quantity of molecular motion expended by the wretch who commits a crime, is equal to that put in play by the hero who saves his country. It is only by maintaining the difference between quantity and quality that we prevent the moral world from revolving in an invariable orbit. Without this, there would be no means of distinguishing between genius and folly, between crime and virtue; or, to speak more correctly, there would be no moral world, no humanity worthy of the name.

From this brief study of man from a physiological and psychological point of view, we draw two conclusions. First: that the mind and body are closely connected, under our present conditions of existence; that they react on each other; that the intellect cannot perform its functions without the medium of the sense-organism, which supplies the materials of knowledge modified according to its own laws, neither can the will move without calling into play a physical agent to carry out its volitions.

The second conclusion is, that mind is not resolvable into body; that thought cannot be confounded with the brain, or will with mechanical movement. As we are not writing a psychological treatise, it does not devolve upon us to inquire into the mode of the union of body and mind; we only need to establish the distinction. By virtue of this distinction, we escape the absolute passivity to which materialism, under all its forms, would reduce us. The ego is no longer the resultant of sensations; it is constituted by a free act, by which it apprehends the great forms of knowledge previously existing in a virtual state in the reason and the conscience. Conscience and reason alike have their primordial character, their first principles not derived from external objects. Moral obligation is the essence of the latter, the principle of causation of the former. Free-will does not require demonstration; it is of the very essence of the moral being. We shall have to define it, and to defend it against the objections of various kinds which are brought against it by the school which, after attempting a psychology without soul, seeks to found a morality without conscience and without responsibility. At the point we have now reached, we have disengaged free-will from its entanglement in the merely mechanical apparatus of motion, in which it had been involved and well-nigh crushed by those who pretended to explain it. The distinction established between mind and matter authorises us also to admit the possibility of the permanence of the higher life. When it is once recognised that the body is not the principle of mind, that it is only the actual condition of mental activity, we are free to hold with Stuart Mill, that the actual conditions may be transformed, and may even disappear, without involving in their destruction that which does not owe its origin to them. If the physical life is not the cause of the psychical, the former can be interrupted, can even cease, without involving the soul in the same destruction. The principle of its being is greater than the actual conditions of its existence, it outlives those

conditions, and there is nothing to prevent its own revival under new conditions. The soul is not, to use one of Plato's beautiful images, a simple harmony resulting from the totality of the physical faculties; it is not with the soul as with the strain of music, which vanishes so soon as the chords of the lyre are broken. The body is the lyre, the soul is the musician who sweeps its chords, and who, if the lyre fails him, may find another instrument; for the soul is essentially intelligence, activity—that is to say, an active faculty governing the passive. It belongs to the sphere of morals to give us presently decisive reasons for the persistence of the human personality beyond this life, and to establish the difference there is in this respect between man and the animals. [1]

We cannot better conclude this discussion on the distinction between mind and mechanical motion, which does not bear upon man alone, but upon the conception of the world at large, than by epitomising the admirable paper read by M. Du Bois-Reymond, at the Academy of Sciences in Berlin. [2] It is entirely directed against the infatuation of German evolutionism, which claims to have raised its monism to the height of a self-evident conclusion. Du Bois-Reymond does not in this paper, any more than in his earlier works, identify himself with any spiritualistic or religious school. He simply protests in

[1] It is evident from this chapter how completely we repudiate the anthropological basis of Mr. Edward White's book on "Conditional Immortality." We shall not discuss here the conclusion at which he arrives as to conditional immortality. That which we emphatically reject, is the strange concession he makes to materialistic theories in the conception of the relations of body and soul, particularly with regard to the absolute dependence of mind upon the brain. On this point Mr. White accepts unhesitatingly Hæckel's theories. He confines himself to reproducing them, without supporting them by the slightest fresh proof. These concessions to materialism in anthropology are entirely gratuitous, and simply made in order to uphold a favourite theory. We are far from accusing the author of accepting the conclusions of materialism; but then, why should he take its premisses under his patronage?

[2] "Deutsche Rundschau," Sept. 1881.

the name of science, which forbids us to formulate hypotheses as axioms. He brings forward indisputable facts in opposition to the oracular affirmations of Hæckel, who does not hesitate to anathematise any who raise a doubt as to the mechanical explanation of the world. There are, according to Du Bois-Reymond, seven unanswerable objections to this explanation.

First.—The idea of matter and force, which is not exhausted by the theory of physical motion.

Second.—The origin of motion. To say that matter moves, is nothing. We must be shown whence the first impulse was derived.

Third.—The origin of life.

Fourth.—That which Du Bois-Reymond calls the final cause apparent in nature, of which the theory of evolution has given no adequate account.

Fifth.—Sensation, which the mere motion of molecules does not suffice to produce.

Sixth.—Thought, which is still less reducible to mechanical motion, at least, in the actual state of our knowledge.

Seventh.—The problem of free-will, on which M. Du Bois-Reymond does not pronounce, though he remarks that the mechanical theory singularly simplifies its task, by eliminating all the psychological facts at variance with it.

Du Bois-Reymond ridicules Hæckel's attempt to ascribe consciousness and intelligence to the atoms themselves. He asks: If atoms feel, what are the organs of the senses for? How can unity of sensation be derived from multiple atoms? Hæckel forgets to determine in what consciousness consists, before attributing it to the ultimate parts of matter. He confounds altogether the fact and the consciousness of the fact. In materialising all the manifestations of the psychical life, he identifies the force of attraction with love, and the force of repulsion with hate. His system may be said truly to exercise a faith that would remove mountains. It is this blind, reckless faith, which affirms that which it has not proved by experience,

of which Du Bois-Reymond complains in the most eminent representative of monism. For his part he is content with the conclusion : *Ignoremus.* Yet he has said so much that we cannot rest here. The principle of causation, which is the mainspring of our reason, constrains us to leave behind these conclusions of prudence. If it is established that pure mechanism does not explain matter, nor the origin of motion, nor the world, nor man ; then we are constrained to affirm a principle of a higher order. Mind alone could produce mind. After setting the marks of design on the lower world, it reveals itself yet more fully in man, the privileged being who is himself the end, the object of creation.

CHAPTER III.

MAN AND THE BRUTES.

I. Position of the Question.

Huxley somewhere says, that if a man were transported in a barrel of rum to the sun, and compared by its inhabitants with the other mammiferous animals and monkeys, he would infallibly be identified with the monkeys. This may be possible; but in order to establish a complete assimilation, even from a purely physical point of view, we must suppose the naturalists in the sun to be still in the period of superficial investigations. They must have fallen into the clumsy error of mistaking this man in the barrel for the true man, for all they would have before them would be his corporeal integument; unless indeed they made as short work as Carl Vogt in his lectures on man, and gave their adhesion to the following declaration of the celebrated naturalist: "In making comparisons, anatomical characteristics carry the most weight. As to the accessories, philosophical or religious, with which some naturalists have attempted to adorn their frail edifice, we can only afford them here and there a passing glance. It is to us a matter of indifference that Schopenhauer bases the distinction between man and the monkey upon the will, while Bischoff makes it depend on his faculty of self-consciousness."

We can easily understand how Vogt, who thus dismisses as mere unimportant detail all that refers to the higher life of man, should come to the conclusion that there is less difference between a negro and an ourang-outang than between a German

and a negro. Doubtless the Frenchman, Italian, and Englishman supply the missing links, which science has unfortunately never yet discovered, between the anthropoid and man. M. Lefèvre is equally frank in his affirmations. In his "Philosophie," he tells us that, as a matter of fact, nature has placed a less distance between the gorilla and the lowest representatives of the human species than between the anthropoids and the lower orders of monkeys. He says: "At a period not determined, there was born, in his proper place and time in the series of beings, a mammal—biped and bimanous, like the other simians, hairy, with legs adapted for climbing, and sharp claws, who struck down his prey with a branch torn from a tree, or with a stone he had picked up. He brought into the struggle for existence a better balanced organism, better regulated appetites, a less obtuse brain. Taught by necessity, he learned to seek places of shelter, to make a dwelling-place for himself. By cleverness and numbers he got the better of superior strength. Selection did the rest."[1] Here we have a rapid and lively *résumé* of the theories worked out in Darwin's two great books, "The Origin of Species," and "The Descent of Man," and in Hæckel's great work on the "Evolution of Man." Darwin has endeavoured to apply to man his theory of evolution, with its great laws of natural and sexual selection, of the struggle for existence, of the effect of heredity, and finally of adaptation to environment and the co-ordination of the modified organs. In his book on "The Descent of Man" he endeavours to lower the barrier between the animal kingdom and man, and to evolve, by insensible degrees, all our higher faculties from the animal instincts; the moral sense being confounded with sociability, and the religious sentiment with the simple terror produced by an unknown force. Hæckel does not take so much pains to identify man with the brute; he attempts no psychological analysis. He is satisfied

[1] "Philosophie," A. Lefèvre, pp. 496, 497.

with proving that the central nervous system is the organ of the psychical life, in order to establish, or rather to affirm, that everything in man, as in the lower animals, is to be explained by mere physiological evolution. "The mind, or 'psyche,' of man," he says, "has developed together with, and as the function of, the medullary tube; and just as even now the brain and spinal marrow develop in each human individual from the simple medullary tube, so the human 'mind,' or the mental capacity of the entire human race, has developed gradually step by step from the mind of lower verbetrates. . . . The human embryo passes through all the same stages of this long progression."[1] We refer the reader lastly to M. Broca's paper on the intelligence of animals and of man, read before the Anthropological Society of Paris, as giving the most clear and brilliant *résumé* of the whole argument against the specific character of humanity.[2] M. Topinard, in his "Manuel d'Anthropologie," gives us a kind of short-hand report of the special pleadings of this brilliant advocate, whose arguments we must regard as too slight to be made the basis of such weighty conclusions.[3]

It is plain that the psychological question with regard to man is bound up with the question of his origin. If in truth there is no specific difference between the human mind and that which is called the intelligence of animals, then the theory of monistic evolution is justified in its most sweeping applications, then there have been only transitions more or less marked between the first exhibitions of psychical life and its most brilliant development. If, on the contrary, the mind of man has truly a character peculiar to itself, then there is

[1] "Evolution of Man," Hæckel, vol. ii., pp. 450, 451.

[2] "Mémoires d'Anthropologie Zoologique." Paul Broca.

[3] "Anthropologie," Topinard. See also "Sociologie," Letourneau. The opposite thesis, which placed the human race by itself, was constantly maintained by Buffon, and has been defended in our day by Flourens and Blainville. H. Hollard has also written a remarkable book on this subject, "L'Homme et les Races Humaines."

something more in man than the mere development of the brute. Even if it were established,—which it is not,—that in physiological life there has been from the lowest to the highest species, such as the anthropoids, a continuous evolution in conformity with the laws of natural selection, of heredity, and of adaptation to environment, the mind of man would be none the less a manifestation of an entirely new order. The principle of causation would forbid its being referred to mere physical antecedents, so far would the effect surpass the cause; and it would be necessary to recognise that it belongs to a higher order and reveals a higher cause. Take it as proved, if you will, that the body of man is identical with the body of the monkey; prove even that physiologically it is derived from it (a proof not yet obtained), what does it matter, if, as has been well said, his soul is that of a god? The true man is not the man in the barrel of rum, from whom all the higher life has been eliminated, as it is by Vogt, as a mere bagatelle. Man, in his entirety, measured by that which is properly characteristic, is not simply the last link in the chain of animal life. That embryo which, we are told, has in its mother's womb passed through all the stages of the earlier physical life of the race, had within it, in the virtual state, an element of a higher order, which sufficed to break the chain and to make it a new starting-point in the series of existences. We are the more warranted in affirming the distinctness of the human race in this sense, since the anthropoid, the direct progenitor of man, has never been discovered. Hæckel asserts indeed that he will be found shortly; but even his word of honour cannot be accepted as proof.

In fine. The question of origin is identified with the question of psychology, and it will be our task to attempt to throw light on the psychological aspect by a patient study of facts. Is there, or is there not, an essential difference between the brute and man from a psychological point of

view? and wherein does this difference consist? These are the inquiries we have to answer.

Before entering thoroughly into this discussion, let us observe that the doctrine of evolution in its first form does not logically imply the denial of any essential distinction between man and brute. Wallace, the precursor of Darwin, says: "Man, by the mere capacity of clothing himself and making weapons and tools, has taken away from nature that power of slowly but permanently changing the external form and structure, in accordance with changes in the external world, which she exercises over all other animals. . . . At length there came into existence a being in whom that subtle force we term *mind* became of greater importance than his mere bodily structure. Though with a naked and unprotected body, *this* gave him clothing against the varying inclemencies of the seasons. Though unable to compete with the deer in swiftness, or with the wild bull in strength, *this* gave him weapons with which to capture or overcome both. Though less capable than most other animals of living on the herbs and the fruits that unaided nature supplies, this wonderful faculty taught him to govern and direct nature for his own benefit, and make her produce food for him, when and where he pleased. From the moment when the first skin was used as a covering, when the first rude spear was formed to assist in the chase, when fire was first used to cook his food, when the first seed was sown or shoot planted, a grand revolution was effected in nature—a revolution which in all the previous ages of the earth's history had had no parallel; for a being had arisen who was no longer necessarily subject to change with the changing universe—a being who was in some degree superior to nature, inasmuch as he knew how to control and regulate her action, and could keep himself in harmony with her, not by a change in body, but by an advance of mind. . . . Man is, indeed, a being apart, since he is not influenced by the great laws which irresistibly modify all other

organic beings. Nay, more, this victory, which he has gained for himself, gives him a directing influence over other existences. Man has not only escaped natural selection himself, but he is actually able to take away some of that power from nature which before his appearance she universally exercised. . . . Among civilised nations at the present day it does not seem possible for natural selection to act in any way so as to secure the permanent advancement of morality and intelligence. . . . Yet there is undoubtedly an advance,—on the whole a steady and permanent one,—both in the influence on public opinion of a high morality, and in the general desire for intellectual elevation; and as I cannot impute this in any way to survival of the fittest, I am forced to conclude that it is due to the inherent progressive power of those glorious qualities which raise us so immeasurably above our fellow-animals, and at the same time afford us the surest proof that there are other and higher existences than ourselves, from whom these qualities may have been derived, and towards whom we may be ever tending."[1]

M. Quatrefages reduces the specific difference between man and brute to the possession by man of moral and religious ideas which imply belief in a future life. He sees only differences of degree between man and the lower animals so far as the intellectual faculties are concerned.[2] Milne-Edwards, in his Lectures on the physiology and comparative anatomy of man and animals,—an admirable zoological repertory of which we shall make large use,—is not content with obliterating all essential distinction between the intelligence of the lower animal and that of man; he claims for the animal a sort of moral sense.[3]

While we fully endorse M. Quatrefage's repudiation of this analogy, we cannot accept as adequate the part he assigns to

[1] "Natural Selection," A. R. Wallace, chap. ix., pp. 315-331.

[2] "L'Espèce Humaine," Quatrefages.

[3] "Leçons sur la Physiologie et l'Anatomie Comparée de l'Homme et des Animaux," vol. xiii., xiv., Leçon XV.

man. We assuredly do not depreciate the importance of the moral and religious element, and we are ready to admit that it places a gulf between the most intelligent of anthropoids and man; but we are convinced that even in the purely intellectual life, the mind of man possesses a character peculiarly its own. The ground taken by M. Quatrefages himself seems to us to establish this. To say that man alone rises to moral and religious ideas, is implicitly to admit that his intellect rises to the universal, the infinite, the absolute. Now this is an intellectual act to which the brute never attains.

Leaving generalities, let us now institute a comparison between man and the brute. Let us look first at the animal in itself. The phenomenon of life, as it appears in the animal, even at the lowest step of the zoological scale, is absolutely opposed to the materialistic or monistic theory of transformation. Without entering on the general discussion, we may pass rapidly in review the conclusions arrived at on this point in Milne-Edwards's learned work. They seem to us all the more valuable because the writer carefully repudiates any philosophical bias, and aims at nothing but giving the result of his great zoological labours. He says: "In the actual state of our globe the ponderable matter which is adapted to form the body of a living creature, never spontaneously becomes living, and we know of no chemical or physical agent which can develop life in it; no example of what is called spontaneous generation has been proved. This organisable or organised matter only becomes living through the direct or indirect influence of the living body by which it is generated. To constitute a living creature, something more is required than the tangible matter of which the body of the creature is formed; and this something, whatever it may be by nature, is transmissible. It is an active principle, a force." [1]

Admitting that the living organism is composed of a multi-

[1] "Leçons sur la Physiologie et l'Anatomie Comparée de l'Homme et des Animaux," vol. xiv., pp. 259–269.

plicity of living particles or *organites*, and forms a sort of co-operative society, the author recognises a directing power by which these particles are organised, and formed into a harmonious whole, and by which are produced those diversities of the living organism whose clearly-marked types could not be the result of mere chemical aggregation. It is this same organising power which preserves the animal type in spite of the constant mobility of matter. There is nothing stable except the form and the idea, as said Aristotle. This idea then is not the result of the mere operation of mechanical forces. It preceded them as the plan of a work precedes the work itself. We quote Milne-Edwards again:—"At the starting-point of their existence, animals which in the course of their development become widely different from each other, often exhibit no appreciable difference in the ponderable matter which constitutes their body. The peculiarities which manifest themselves successively in their constitution and properties cannot be attributed either to different substances added at subsequent stages to their original substance, nor to differences in the conditions under which the evolution is carried on. From the first, each creature has in itself an organising force which approximately determines the mode in which it will assimilate matter. It follows that if I were obliged to choose between one of the two hypotheses on which spiritualistic and materialistic philosophers have been arguing in all ages, I should take my place among the former." [1]

Milne-Edwards affirms the transformist hypothesis to be inadequate to account, not only for the origin, but for the development of life. Disposed as he is to admit that the idea of species has been too limited, and that a certain elasticity may be allowed, especially in the early periods of zoological development, he nevertheless declares that nothing in the facts proved justifies the idea of a transformation of zoological types under

[1] "Leçons sur la Physiologie et l'Anatomie Comparée de l'Homme et des Animaux," Milne-Edwards, vol. xiv., p. 276.

external influences. He says:—"In the animal kingdom, the generic products furnished by the same individual, or by similar individuals, never bear a complete resemblance to each other nor to their parents. Identity in the various terms of a race is then never absolute, but daily observation shows us that in the majority of cases the differences are slight; and when they are considerable, we find that they are incompatible with the complete development of the organism, or at any rate that they entail sterility. Lastly, the deviations of the new, compared to the pre-existing type, never have the effect of producing a type such as is presented by animals of a different stock. Nevertheless the peculiarities found in the propagators tend to perpetuate themselves in their descendants, and in this way the primordial characters of the race are susceptible of certain changes."[1]

Milne-Edwards thus admits, as we see, a certain amount of variability in the products of generation; but as soon as it becomes an anomaly, as in monsters, under the influence of special exceptional circumstances, the result is either incomplete development or sterility. "Variability in characteristics of a secondary order is very rationally explained by the laws of heredity, natural selection, and adaptation to environment; but nothing in science authorises us to believe that, without the intervention of unknown modifying causes, changes of this order can go very far, or that in other times, any more than in our own, an animal may have been born from a plant, an insect from a zoophyte, a mammal from a fish, a dog from an opossum, or a man from a monkey."[2]

We are thus brought back to the relations between humanity and the animal kingdom. Leaving now the physiological aspect,—on which we need say no more after so conclusive a

[1] "Leçons sur la Physiologie et l'Anatomie Comparée de l'Homme et des Animaux," vol. xiv. p. 316.

[2] *Ibid.*, p. 328.

confirmation given to our views by one of the most competent of biologists,—we shall turn our attention to the psychical or psychological aspect of the question.

With regard to animals, we shall have to be on our guard against exaggeration in either direction. We must be careful not unduly to exalt or to depreciate them. We are tempted to apply to-day to the animal what Pascal said in reference to man: "If men humble thee, I lift thee up; if they uplift, I humble." The partisans of absolute transformation, who try to bring the man and the brute as near together as possible, have a tendency to depreciate everything in man, and to exalt everything in the brute. They literally romance about animals as Rousseau did in the last century about savages. As we read some of their writings, we are ready to say, that if we want to have wits we ought to turn beasts. On the other hand, the avowed spiritualists fall into the opposite extreme. We shall try to be true to the facts furnished by impartial observation.

II. Instinct and Intelligence.

There is one primary fact which the materialistic transformation theory completely fails to explain; this is, the fact of instinct in the animal. We shall inquire presently what we ought to think of it, and whether it alone, apart from reason, suffices to make animal life comprehensible to us. For the moment we have only to look at the explanation of it given by the naturalistic school. It would lead us to suppose that in the animal, as in man, everything comes from without, since all is reduced to sensation. Instinct must be then only the resultant of experiences transmitted and accumulated from generation to generation by heredity. At the outset, it does not exist in the animal in any degree, either germinally or potentially. It is a lesson slowly learnt, the great object-lesson of external nature. We ask then, what is to be said of those numerous cases in zoology in which

instinct certainly cannot be connected with experience of any sort? Such a case is that of the *necrophorus*, which, though it dies when its larva comes into being, prepares for this larva (which it will never see) animal nutriment unknown to itself, since its sustenance in the adult stage is solely the juice of plants. Who taught it to drag with great labour the dead body of a mole into the hole in which it deposits its larva, in order that the larva may find the food it needs? What experience guides this insect to perform such complicated acts, which exhibit such marvellous foresight? It will never know its progeny; the food which is adapted to the larva is equally unknown to it. It obeys, then, an inward impulse of which it has no consciousness. The *xylocopa violacea*, or wood-borer, supplies an example of the same order. This kind of solitary bee, when it is about to lay, attacks a plank of any sort and makes in it with its mandibles long galleries ending in a *cul de sac*, the lower extremity of which is only separated from the external surface of the wood by a thin layer of ligneous tissue. It lays only once, and dies soon after, yet it toils in this way to prepare for its progeny a suitable home. It takes no less pains in providing for its sustenance, for it carpets the gallery which it has hollowed out with the pollen of flowers gathered up and rolled into little balls. With the sawdust of the wood that it has hollowed, it makes a sort of chamber for the egg about to be laid. Three eggs are deposited at one laying, and then the bee dies. When the larva, having come out of the egg, has arrived at the necessary point of development, it pierces the wall of its chamber (not attempting the roof, which is too tightly compacted), and thus gains the fresh air. The insect which goes to work thus methodically to effect its liberation, never saw the thing done by one of its progenitors. It has learnt nothing, and yet it knows all that is necessary for it to know.[1] Facts like these, taken from the instinct of in-

[1] "Leçons sur la Physiologie et l'Anatomie Comparée de l'Homme et des Animaux," Milne-Edwards, vol. xiii., p. 467.

sects, might be quoted in any number. The *odyneri*, belonging to the order of hymenoptera, prepare more substantial food for their young. They place in the interior of their nest, by the side of the eggs from which the larva is to emerge, a certain number of insects—living but struck with paralysis, so as to become an easy prey and yet to be kept fresh till they are wanted. This paralysis, with which the insects are seized, is owing to a tiny drop of poison inserted in the thorax by the sting of the *odynerus* when about to lay. Now, unless we suppose this little creature to have a very advanced scientific knowledge of the effect of poisons, we must recognise in this operation an innate instinct which owes nothing to experience.[1] The same conclusion may be drawn with regard to the instinct which impels bees, when their queen is dead, to prepare another by putting the larva of a working bee through a course of feeding adapted to develop its fecundity and to transform it into a queen bee. No tradition, no acquired experience, no reasoning, can teach them what they have to do in order to remedy in this way the disaster which has befallen them. Can any one tell us by what experience the larva of the *sitaris*, which only finds the conditions favourable to its development in the inside of the subterranean nest constructed by the *andrena*, has learned to hook itself on to the hairs with which the body of this hymenopteran is furnished, and thus to have itself carried into the cradle which it has prepared for its progeny. The larva of the *sitaris* creeps under the egg laid by the *andrena*, clasps the shell with its mandibles and thus finds its food. Then it changes its skin, and makes use of the old skin as a boat in which to keep itself afloat on the honey beneath, which is its nourishment in this second phase of its existence. Finally, it is metamorphosed into a pupa, then into a winged insect. It pairs in the air, lays its eggs, and dies.

[1] "Leçons sur la Physiologie et l'Anatomie Comparée de l'Homme et des Animaux," vol. xiii., p. 492.

Its larvæ repeat precisely the same process without any instruction.[1]

These well-established facts, and a thousand others, prove, as it seems to us, that the hypothesis of accumulated experiences as explaining the origin of instinct, is untenable, and that there is in instinct something innate and primordial. It is equally impossible to see in it the manifestation of intelligence properly so called, working by comparison, reasoning, combination; for intelligence does not act thus unvaryingly, it hesitates, tries experiments, modifies its methods. This difference between instinct and intelligence does not apply only to these very curious cases, in which the complication of the combinations equals the depth of ignorance in the insect. In a general way, instinct in animals knows without having learnt; the beehive and the ant-hill were constructed with the same perfection from the very first; the bird's nest displayed as much art ten thousand years ago as to-day.

If we were to confine ourselves to instinct in its primitive form, this would alone suffice to draw a sharp line of demarcation between man and the animal. To man alone would belong intelligence properly so called, which is conscious of itself, which learns and makes progress; while the animal would never rise above this unconscious intelligence, which is not its own since another has thought for it. It has been said, not without truth, that God is the intellect of brutes. We cannot get beyond the following well-drawn distinction. ("Instinct knows not that it knows; intelligence knows that it is ignorant.")

We must acknowledge, however, that the question is not so simple. In fact it cannot be denied on the one hand that instinct can acquire a certain development, and on the other that it appears insufficient to explain the cases in which the animal has not only to provide for the normal development of

[1] "Leçons sur la Physiologie et l'Anatomie Comparée de l'Homme et des Animaux." Milne-Edwards vol. xiii. p. 476.

its being, but to repair a disaster or avert a danger. It seems in such cases as if intelligence really came into play. Is the essential difference between man and brute still observable in such a case?

It cannot be denied that there is a certain progress in the animal, which enables it to profit by experience acquired and to modify on some points the proceedings which instinct has suggested for its preservation. We freely admit that, within certain limits, the Darwinian explanations are sustained by facts; that the struggle for existence has had some influence on the development of the animal, and that heredity has perpetuated the progress made. We may not include in this progress the acquired advantages of domestic animals, which are often very remarkable; for in this case we have artificial culture developed by intelligence of a superior order. Man is the principal agent of this culture; the educational processes which he employs show his own thought, not that of the animal; moreover, the means of education used by him are often crude and appeal primarily to the animal appetites. The skill of learned dogs must be assigned to causes of a very low order; the dog has the appearance of calculating, but does not really calculate; he obeys, often with marvellous cleverness, certain almost imperceptible signs which owe their efficacy to the sensations which have become associated with them; but the credit of skilful association belongs to the human dog-trainer. We attach far more importance to the very curious cases in bee and ant history in which we find them not only building their hive and ant-hill in the most skilful fashion, but also repairing it when it is destroyed, and providing against observed inconveniences. We have seen bees lessen the orifice of their hive in summer to guard against the invasion of parasitic insects and enlarge it in winter, when no such danger was to be apprehended. The example of beavers, which on being brought to Europe modify their way of building, because the conditions of their existence are changed, is no less remarkable. To build

lodges open to the sky is safe in the great American deserts; it would be dangerous in a thickly-populated country like France. Must there not have been a certain degree of intelligence conjoined with instinct in the beavers located on the shores of the Rhone, which led them to conceal their lodges in the banks of the river?

Recent observations on ants made by M. Forel and Sir John Lubbock, and those on bees made by Hubert of Geneva, show that animals are capable of modifying their methods, or at any rate of arranging their little workshop in the way best adapted to their ends. The breeding of the aphis by ants, in order to provide a sort of milk; the division of labour so carefully carried out among these industrious insects (the various tasks necessary to the good of the community being assigned to different workers); the existence of their army of fighting amazons, always ready to defend the community or to extend it by conquest; all these facts, now better observed than ever before, reveal a mental life, the true character of which we have to determine. The higher mammalia exhibit traits equally remarkable. The cunning devices of the fox and the wolf to secure their prey or to elude pursuit, and the shrewdness of the elephant, legitimately excite admiration. If from the evidence of mind we pass to that of affection, it is certain that animals have sympathies and antipathies, that they form, in fact, real attachments. We conclude from all these observations, which cannot be disputed, that the Cartesian hypothesis of a pure animal mechanism is as inadmissible as the materialistic transformation theory, which recognises nothing more in either the animal or man than molecular motion.

Nevertheless the line of demarcation between brute nature and human nature remains clear and impassable. Its broadest mark is the decided predominance of instinct in the brute and of the conscious life, willing and reflecting in man. We need not repeat what has already been said at length, on the mental

and moral life of humanity in discussing the problem of knowledge and of the psychical life. We have affirmed and endeavoured to prove that there is in man a latent energy, which coming in contact with external objects, and primarily with his own body, gains consciousness of itself by effort. It is stimulated and developed by the resistance which it meets; it puts forth an act of will to overcome it. The ego recognises itself and distinguishes itself from the object in the first manifestation of its will. The personality begins to differentiate itself from that which is outside it, by virtue of that higher form of effort which is called attention, and concentrates its thought upon things with a view to know them. Effort—attention in its second stage—is turned upon the ego and transformed into reflexion. In learning to know itself, the ego apprehends at once reason and consciousness, and both these raise it from the particular to the general, to the great fundamental laws of its being. In the reason, it apprehends that *à priori* of thought which is formulated in the categories, those great axioms which, as they proceed on the principle of causation, argue a supreme cause. Sensation then furnishes the materials of science, which leads on to the general, the universal, the divine. In the moral consciousness, the ego discovers a higher law, that of moral obligation. It feels itself at once free and under constraint. But free-will after all has been the chief agent in this psychological evolution, the stimulation to which comes from without, but whose essential conditions are inherent in the human mind. By virtue of this *processus* which only makes actual man's true nature, till then dormant and absorbed in the instinctive life, he leaves instinct behind, masters it, rises above the ever-fluctuating stream of sensations, feels himself a moral personality, distinct from the changing tides which ebb and flow unceasingly around him. Memory makes him free of the past; foresight anticipates the future. It is not enough for him to feed himself, to keep himself warm, to escape the danger of the moment, to become the progenitor of offspring

which are his but for a little while. Conscious of his acquired privileges he turns them to account and adds to them; the career of progress stands open before him; and this shows clearly how far he has left behind the merely instinctive life, which has only memory of yesterday and prevision of to-morrow, since it is altogether controlled and guided by sensation. It is this barrier which, whatever may be said, the brute never overleaps.

Maine de Biran has excellently described this difference between man and the brute. He has shown with singular force of demonstration that the brute never attains to the voluntary effort which, stimulated by resistance, gives the ego the consciousness of its reality, freedom, independence, and which, as it rises into a higher sphere, becomes first attention, then reflexion, so that the ego is the object of its own contemplation and recognises its own persistence through the succession of evanescent sensations, this recognition being the condition of its progress.

The brute may indeed have a certain intelligence, a certain life of the affections, but it never attains to personality or free-will. Though it sometimes rises a little above instinct, it is never conscious of itself as a free, persistent, progressive being, really distinct from the things around it. Still more evident is it that it knows nothing of reason and its laws, of conscience and its obligations, of free-will and its high perils. Maine de Biran sums up in the following passage his views of the relations between man and the brutes. "We find in our compound nature various facts uncontrolled by the will. We awake suddenly with violent and hasty movements, under the impression of imminent danger. At the instant of waking, the ego, recovering possession of its domain, grasps, so to speak, in the very act, the products of a force not its own (though it imitates or simulates the acts of the ego), and at once arrests, suspends them and begins another course of action controlled by the will. This sort of contrast or passage from the spon-

taneous to the voluntary, enables us to distinguish that which appertains to the animal, to the organised autonomy, and that which is truly of the man." [1]

In the animal the sensory and organic faculties, both external and internal, are perpetually exercised like those of a man in a dreamy or somnambulistic state. And herein is the essential difference, which suffices to show the superiority of human nature over the purely animal, apart from any development of the mental life. Buffon says: "Can we not conceive what this consciousness of existence in the animals is, by reflecting on the state in which we find ourselves when we are so deeply absorbed in an object or so strongly agitated by passion that we are incapable of any reflexion on ourselves? We express the idea of this state by saying that a man is beside himself, when he is entirely occupied with the sensations of the moment. This is the habitual state of the animals." [2]

These conclusions will be confirmed if we define to ourselves the nature of instinct by means of the keen and exact analysis given by M. Joly in his book on man and brute.[3] Instinct is that which urges on the animal to do all that is necessary to life. Its organism, to whatever race or species it belongs, is so constituted that it has special needs demanding appropriate satisfaction. It naturally seeks to avoid those things which annoy and to procure those which gratify its natural desires. Thus are formed and developed in it desires which, in their continuity, become tendencies producing movements combined with a view to satisfying its wants. Sensation is a perpetual stimulus to desire, and therefore to emotion which tends to its satisfaction. Imagination, which perpetuates sensation, quickens and prolongs the desire, and the corresponding movement. Habit, without at all changing its nature, impresses on these movements a certain recurring mode. Such is the genesis of

[1] "Œuvres Inédites de Maine de Biran." Ernest Naville, p. 471.
[2] "Œuvres," Buffon, vol. iv., p. 303.
[3] "L'Homme et l'Animal," Joly, Second Part.

instinct. As to the processes which the animal employs to satisfy its needs, we have seen that it did not learn them, that they are innate, while at the same time they are absolutely dependent on its organism. They vary with the organism of different species, and are entirely governed by the preponderance of a particular sense. The sense of smell, for example, has a preponderating influence in the development of the instinct of animals. Those that are destitute of it, like the whale or the camel, are exceptionally stupid; those in which it is strong evince, on the other hand, great keenness of perception, and are as clever in the chase as in fleeing from danger.

"Every animal finds in its organisation a whole volume of exact information and a collection of appropriate weapons and tools. The result is a combination of feelings, images, and spontaneous motions, which, combining and recalling one another, infallibly lead it to its desired end. Its periodically recurring wants constrain it to employ particular methods of action, and to allow itself to be guided by its special sensations."[1] The organisation of an animal obviously decides the nature of its food, and consequently the choice of places where it must live, whether by running water, or on a marsh, or by the sea, or in trees. The hedge warbler avoids heights and makes its nests in low shrubs, because it flies badly; and as it makes its nests several times in a year, it only builds lightly with dry grass. The swallow, on the contrary, being strong on the wing, makes its nest very high and builds it strongly, using as cement the abundant saliva which its beak secretes. Every species of bird, according to Mr. Wallace, employs the materials most easily within its reach, and chooses the situation best adapted to its habits. The delicacy and perfection of the nest are always proportioned to the size of the bird, to its conformation and habits. The strength and rapidity of flight, on which depend the distance to which the bird will go in search of

[1] "L'Homme et l'Animal," Joly, p. 146.

its materials; the faculty of poising itself motionless in the air, which determines the spot where the nest shall be built; the strength and prehensile power of the claw, the length and sharpness of the beak, the flexibility of the neck, the salivary secretions—all these are specialties resulting from the organism, and most frequently determining the nature and choice of materials, as well as their combination and the form and position of the building.

The same observations may be made with regard to those architectural marvels which we admire in the ant-hill and the beehive. In all these constructions, often so perfect, we find no trace of conscious intelligence; their perfection from the very beginning precludes the hypothesis of skill developed by the exercise of an art learnt. In short, the animal acts from a necessity of its organism, under the influence of desires which are awakened by sensation, quickened by its purely sense-imagination. Finally it is guided in its mode of operation, which is only the mode of its combined movements, by that sort of vague divination which we call instinct and which is always in harmony with its organism. While instinct is relatively infallible from the outset, it possesses nevertheless a certain capacity of modifying itself, if the organism or the environment have undergone some change. The sensation of pain or pleasure is always the prime motor of action in the animal, but it may be differently affected by a change of environment, or through some accidental circumstance. For example, when the spider's web has been torn, the same impulses which led it to weave it at first, incite it to begin again. In the same way, the bee and the ant are actuated to repair the ruins of their dwellings. We admit that in these reparative processes, more of intelligence blends with the instinct than in the first act; but it is still intelligence governed by necessity, not going beyond the orbit defined by its organism, influenced as it is by the changed conditions of its environment. To build the hive at first was as difficult as to repair it. Do we

not observe a modifying and reparative force constantly at work in nature? Does not the plant turn away its roots from the stones it meets with in the earth? M. Joly says: "When the animal comes in contact with an obstacle which impedes the satisfaction of its necessities, those necessities assert themselves more strongly; an extraordinary energy is developed; all the natural faculties are sharpened, so to speak; instinct brings to bear all its resources. All the secondary or consecutive phenomena of instinct indicate a change either in the direction of deterioration or progress, but it is always in proportion to some similar change in one of the impelling causes which the sensibility of the animal unconsciously obeys. These slight accommodations to circumstances, these little individual variations in the life of the animal, may increase in number, but they do not at all alter in quality; they always arise out of the same instinctive demands—hunger, love, self-preservation. They only repeat the same movements, those which the particular nature of the organs demands and necessitates; they are guided by the same sense-impressions, which are themselves always special, never generalised. If they are augmented and varied at all, it is by a sort of memory and imagination, which can only be regarded as the renewal of the first sensations. The works or occupations in which the animal displays such apparent variety of imagination and invention, remain always equally perfect, equally uniform, equally necessary." [1]

The animal is so dependent upon its organism that it never makes use of anything but its own body in its work; it never, under any circumstances, attempts to frame a tool, even in imitation of man; because, in order to make a tool, it must get beyond the orbit of its necessities and native impulses, and, proceeding on past experience, believe in the persistence of the laws or forces of nature, as certain to produce the same effects under analogous circumstances and for like ends.

[1] "L'Homme et l'Animal," Joly, pp. 178, 179.

Further: the animal will not even imitate another animal in any act going beyond its own instinct; the hound only pursues the game to which it is accustomed, and is perfectly stupid on another scent. According to Hubert's observations, the amazon ants, which are separated from the auxiliary ants, will die of hunger rather than do the work of the labouring ants and make the chambers necessary to their preservation. The animal in captivity goes through the same operations as in its wild life, even if they are no longer of any use to it. It is so true that the intelligence of animals is completely controlled by sensation, that, as Buffon says, the loss of one sense is sometimes equivalent to the loss of all; while a man who has become blind or deaf may remain otherwise unchanged. We must distinguish also between true intellectual development and the mere imitation, which in the anthropoid is carried so far as to simulate thought. Monkeys, as Buffon shrewdly says, are at the most only people of talent, whom we take for geniuses; imitate us as they may, they are only beasts after all.

From all these facts it follows that it is not correct to maintain as do MM. de Quatrefages and Milne-Edwards, that animal life exhibits, as far as intelligence is concerned, no essential difference from the life of man; that the difference is one of degree, not of kind. In support of this view, we are told that the animal understands and remembers; it judges, reasons, deliberates, foresees; in a word, it thinks. But what does this matter, if it thinks without knowing it? If this be the case, it has intelligence minus that which is the essential characteristic of intelligence in man; this so-called intelligence of the animal, is unintelligent intelligence, unreflective reflection, free-will subject to necessity. Herein lies the fundamental difference between man and the animal. The intelligence of the animal, as M. Ravaisson says, is as it were fascinated by its object, and alienated from itself. The proof of this fascination is, that none of these intellectual operations of the animal,

of which Milne-Edwards exaggerates the significance, can be carried on apart from sensation, or can so rise above it as to distinguish the subject from the object, to deduce the general from the particular, and to formulate a law. Attention in the animal never becomes reflexion, for it is only the force of the sensation which makes the animal attentive; it does not fix itself, it is fixed upon a certain object by means of a predominant sensation. The animal does not possess that kind of memory which is a reproduction of sensation by images, and it never exhibits the creative memory which freely combines images. Its memories are proportioned to the effect produced upon its senses by things, to the vividness of the impression, and the impression is always connected with the predominance of a particular sense, like that of smell in the dog, or of sight in the bird. The association of ideas is only a grouping of sensations connected with each other, without any reaction from within. Milne-Edwards has insisted much upon the faculty of discernment by which even animals of quite a low type distinguish themselves from things around them; but this is nothing more than vague sensation, and has no analogy with the sharp distinction between the ego and the non ego. To ascribe to it the essential principle of reason, that is, the principle of causation, because it has a vague intuition that its action under certain conditions will produce a special result, is to ignore the general character of that principle. The animal never gets beyond the particular direct succession of two facts. To perceive the link between two sensations, is not to formulate a cause, nor to reason. The animal is simply passive and does not attempt to see the reason of anything. To speak of morality in animals because we can influence them by blows or rewards, is to misuse terms. We find the rudiments of all our intellectual acts in the animal, but nothing more; just because there is wanting the master faculty —free-will, which breaks through the bounds of instinct and constitutes the personality. The sexual instinct is at the root

of all its affection, and it does not rise to moral life in this sphere any more than in that of knowledge.

We claim the moral life, then, as the exclusive appanage of man, which constitutes at once his glory and his danger; for it is just because he is not led by infallible instinct, and is not simply a creature of nature, but a creature who has freely to develop his own personality in the domain of the intellectual and emotional life, and to perfect his own being, without the fatal constraint of physical necessities, that he may fail in the great purpose of his being. He fails miserably when he does not fulfil the higher laws of his nature. Nevertheless the fact remains that he alone shakes off the life of pure instinct and controls the tumultuous flow of fugitive sensations; he alone comes to know, not merely to perceive; he alone expresses that which he knows by signs which are not mere manifestations of sensation; he alone speaks; he alone transforms the sexual impulse into love, knows what devotion means, and practises it; he alone recognises moral obligation, its laws and its sanctions, as something higher than either pain or pleasure, and feels himself subjected to the ordeal of free-will. Lastly, from an assembly of individuals, linked together by the most powerful of instincts, he educes the social order, the life of the family, the city, the race. By the power which he possesses of bringing reflexion to bear on sensation, he preserves that which he has acquired in the past, as a treasure to which he is constantly adding, and he anticipates the future by that law of progress which is incompatible with a life of pure instinct. We may say, therefore, with Quinet, that between man and the brute there intervenes all history. More than this, man possesses an undefinable something, not of the world, and yet an essential part of his being, which fills him with yearning and aspiration. This is in truth that religious element, the importance of which is so great, that some eminent naturalists have gone so far as to make it man's one distinctive trait.

We shall look one by one at these various manifestations of

the human personality constituted by free-will. The origin of language; the various developments of social life; the origin of morality and religion; these are the subjects to which we shall now turn our attention. They have been brought very prominently before us of late by the polemics of the day.[1]

[1] In a recent work, Büchner has brought together all the information derived from experiments made by Hubert, Forel, Sir John Lubbock, and others, in relation to the mental development of animals. The author tries to put them as nearly as possible on a level with man. In fact, they should be placed far above man, for no artistic genius is equal to that of bees, ants, and termites, if those marvels of construction of which we are told are to be attributed to the development of intelligence, and not to instinct. We must allow a good deal in these marvels for the imagination of the author, especially as several of the facts he quotes rest only upon a single testimony, as for instance, that of the agricultural life of the termites in South America, with its seed-time and harvest. In many other cases the interpretations seem to us purely arbitrary. To transform the care taken by the bees to free the hive of the incumbrance of dead bodies, into a burial service, and to speak of an expression of offended justice in the look of the bee, is to make very free use of hypothesis. If we adhere to the facts proved, we shall find throughout Büchner's book confirmation of our statement that sensation absolutely predominates. Give honey to these highly civilised ants, and they will leave both their larvæ and their work. That admirable institution, slavery in the hive, is primarily caused by the incapacity of the amazon to provide for its own nourishment; it is therefore a physical necessity. These warrior ants will kill their larvæ and kill themselves, rather than not satisfy their savage instinct. The termites, on the contrary, not being of a fighting nature, will never fight, however great the danger. Büchner admits that these incomparable artists have no tool but their head, which is solid enough to serve as a hammer. The differences of organism determine the disposition of the parts to be played—queen, workers, or soldiers,—and this difference is marked even in the egg. A change of food is enough to produce the functional varieties in the bees. The life of the affections is no less subject to sensation. When the queen is no longer of any use, when she has fulfilled her maternal mission, she is pitilessly put to death. So are the males after pairing has been accomplished in the air. The royal cells are only taken care of during the swarming time; after that they are destroyed. If the queen loses her antennæ, she loses the sense of her maternal duties. According to Büchner's own testimony, then, the animal life appears to be completely subordinated to sensation.

CHAPTER IV.

LANGUAGE: ITS ORIGIN AND INFLUENCE ON KNOWLEDGE.

To express his sensations by physical acts, gestures, or exclamations, is a property belonging alike to the animal and to man. It is beyond question that the animal makes itself understood by its congeners, as well as by the other species with which it comes in contact.[1] The barking of the dog, the neighing of the horse, and still more the song of the bird, go through a scale of sounds corresponding to particular sensations and to purely instinctive feelings, such as joy and grief, and even to a certain sort of affection. Insects have their own methods of communication; they give each other necessary information by touching antennæ. This kind of language, however, as our opponents themselves admit, does not rise to a level with speech. Man is man only because he speaks. Language, as Max Müller well says, is the Rubicon which the animal never crosses, because it reveals a direct operation of reason; it is reason expressed, just as reason is unexpressed language. The word *logos* combines both meanings. Let us analyse this great essentially human fact, so that we may comprehend its import.

Man, like all animated beings, communicates his sensations or his feelings by signs, that is to say, by bodily acts which reveal the phenomena passing within. We must make between these signs, whatever their form, the same great distinction

[1] "Leçons de la Physiologie et d'Anatomie Comparée de l'Homme et des Animaux," vol. xiv., p. 91.

which we have made between that which belongs to the domain of instinct and that which is reflective, voluntary, or, to speak more exactly, conscious. Bodily manifestations which translate the life within, address themselves sometimes to the eye, sometimes to the ear. The latter are infinitely superior to the former, because they bring into play a far greater variety of signs. This superiority of method, however, is not appreciable, till the instinctive life is left behind. It is enough that the signs appealing to the eye be voluntary and conscious, to mark them as proper to humanity alone, and as already apprehended by the reason as language. Gestures and the play of the features are signs of this order. The superiority of man is very strikingly exhibited when his face is illumined by thought or affection. There are moments when the corporeal form becomes so transparent that the mind transfigures it. Two signs are specially human: laughter and tears. Both imply something beyond mere sensation. We only laugh when we feel the contrast between that which is and that which ought to be, or when we are more or less conscious of a certain incongruity. No smile ever played upon the lips of the most intelligent anthropoid. It breaks—a ray from the higher life—even on the face of the child; but it only gets its full sweetness and meaning when the moral life is truly developed.

Even in the play of the features we find a language tending to become peculiarly human, that is to say, intelligent, voluntary, conscious. This is true also of the gesture; it often supplements and strengthens speech; in a really great orator it is a wonderful instrument of power. Gestures, by virtue of their conventionally accepted significance, assume all the characters of articulate speech in conveying thought or feeling, though they can never come up to it. With the deaf-and-dumb they act perfectly as substitutes for sounds.

It is only, however, when language is addressed to the ear that it exhibits all its versatility, and lends itself perfectly to

the purposes of thought. (Sound is brother to the soul, says Victor Egger; it seems to share in its immaterial existence.) Here again, however, we must draw a distinction between language in the instinctive period and in a later stage, when, by the exercise of reflexion, it has received the seal of the individual mind. Language is at first only a cry called out by sensation; this cry becomes more or less modulated and varied in its inflexions, in exact proportion to the developing intelligence of the child uttering it, while in the animal it never expresses anything beyond sensations; it expresses these more or less clearly, but it never translates them into thoughts. In man, on the contrary, a mere cry may reveal his higher life, as in the interjection, which is sometimes the only utterance he can find for his intense admiration of some grand object. For the most part, however, the cry, even in man, only expresses feeling in the instinctive stage, when it is still, so to speak, all natural. The life of reflexion only finds a medium worthy of itself in that marvellous articulate language which, by a combination of various organs, translates the thoughts and feelings with more flexibility and more finely graduated tones than the most perfect musical instrument. M. Janet says: "When voice has been produced by the expiration of air which sets the vocal chords in the larynx vibrating, the sounds emitted are modified in their passage through the pharynx. The nostrils form the immovable part, the tongue, lips, and roof of the palate, the movable part of the organ. While the former serve only as a sounding-board, the latter by their variations produce the several modes of articulation."[1]

Articulate language is the harmonious result of a wonderful co-ordination of various elements and successive phenomena. Will plays a leading part in it; indeed, it alone is capable of producing it. It is wonderful to notice that, ample as are the modifications of which articulate utterance is capable, it is reducible to a small number of elementary sounds—the

[1] "Physiologie," Janet, chap. x.

vowels and consonants.[1] Articulate language is not limited, like the cry, to sensation, emotion, or even to that state of mind in which we are, as it were, carried out of ourselves by some strong excitement. It expresses thought in all its fulness. First it represents things, whether external or internal, as they appear to the mind; then it throws light on their relations, the influence they exert upon one another, and the modifications to which they are subject in their various relations.

Let us look more closely at this marvellous instrument.

Language begins by designating and naming objects. Now, how do we come to name an object? Obviously by that essential act of the reason, which is called abstraction. We should never name an object unless we gave up trying to represent it in its totality and confused complexity. We must seize some leading characteristic feature of it, isolate that feature in order to designate it, and consequently eliminate that which complicates or encumbers it. For example. How do we come to name and designate a horse? If we are determined to express all that the eye can take in: the colour, shape, height, etc., it can never be done, if for no other reason than that attributes like these are common to a multitude of other creatures. We must, out of this multiplicity of attributes, seize upon some one dominant and characteristic trait; we must isolate this from the rest, and fix it by an appellation. This is what really takes place. (The horse is, in the primitive Aryan language, a thing that runs.) This is a first abstraction. But a second is needful to bring together all the individual horses in one class. Here abstraction has been accompanied by generalisation, another operation appertaining to reason alone. We arrive then at the substantive *horse* by these two characteristic acts of the understanding. It is by identical processes that all substantives have been formed. Hence we find that the roots of words in all languages are always abstract words. Every root expresses a general idea. Max Müller says: "The first thing really

[1] "Physiologie." Janet.

known is the general. It is through it that we know and afterwards name individual objects, of which some general idea can be predicated; and it is only in the third stage that these individual objects, thus known and named, become again the representatives of whole classes, and their names or proper names are raised into appellatives."[1]

All naming is classification, bringing the individual under the general. "Man," as Max Müller says again, "could not name a tree, or animal, or a river, or any object whatever in which he took an interest, without discovering first some general quality that seemed at the time the most characteristic of the object to be named."[2] For the most part man has fixed upon that which most forcibly impressed his imagination. Before man named the horse, *that which runs*, he must have known in a general way what running was; and in like manner in naming the bird, *that which flies*, he must have had some previous acquaintance with the act of flying. If language thus proceeds from abstraction and generalisation, we can understand why it is designated by this word λέγειν, which means to choose, to collect; for, in order to form the root by which the thing is named, there must be a foregoing choice, eliminating all its secondary characters by an act of the will, conscious in its essence, though often with only a vague and latent consciousness.

Nothing could more clearly show to what an extent reason is present in the elementary operations of language, or could more fully justify the admirable synonymy between speech and reason created by the most philosophical of languages in the word λόγος, which represents both. The development of language in phrases and propositions is only the development of reason itself connecting the attribute with the subject by means of these same processes of abstraction and generalisation, and of the verb which brings into play the principle of

[1] "Lectures on the Science of Language," Max Müller, pp. 430–432.
[2] *Ibid.*, vol. ii., p. 68.

causation—the law of all action. There is not a single proposition which does not imply a judgment; and judgments in their sequence are the manifestation of the natural logic of the human mind. Reason, then, is the very soul of language. Is there anything at all analogous to it in the cry or the instinctive sign of the animal? Is there anything in that cry which implies abstraction, generalisation? It does nothing more than express a sensation, or at most that totality of sensations susceptible of a certain development which constitute a want; it never goes further. Man, on the contrary, at once gets beyond sensation, want; he goes out of himself and names and characterises the object of his perception; he knows it, and makes it known. We thus arrive at a second characteristic of speech.[1] The inferior language of the animal is purely subjective, sensational, if we may so say. It has attained its end when it has expressed that which the animal feels; it attempts no more. When insects concert and understand one another by signs, it is always in order to obtain that which instinct requires, or to escape some impending danger. Man, on the contrary, even under the pressure of sensation, fixes on the object which has excited it, names it, and thus rises above the mere sense-impression to knowledge. To speak, is to know. Soon he is no longer content to designate the object of his knowledge, simply because he dreads or desires it; he obeys a nobler impulse; he seeks to know it for itself, impelled by a higher need born of and developed with his reason.

Speech thus becomes the great instrument by which man learns. It renders learning possible by virtue of those faculties of abstraction, generalisation, and reasoning in which is found the natural logic of the human mind. Moreover, language preserves the treasures acquired, and enables man to transmit them; for as it rises above mere sensation so as to acquire the knowledge of the object, so it also outlives sensation.

[1] "L'homme et l'Animal." Joly.

The animal repeats the same signs, but each sign is as fugitive as it was spontaneous. The signs are repeated, but no trace of them remains; they are never arranged and classified so as to form a permanent residuum of accumulated and accumulating experiences, indicating past progress and preparing for future advances, and so connecting the future with the past.

Words, as an instrument of knowledge, render man a twofold service. First, they help him to arrive at a fuller consciousness of himself, by giving a precise form to his ideas. Victor Egger says: "Reason is inward speech, as human language is reason externalised."[1] The mind speaks to itself; it describes its ideas, its feelings, and in describing it explains them to itself. The reflective life of the mind is strengthened first by the effort requisite to the internal word, and next by the expression which it gives to its ideas in defining them. It is like the intellectual nebula concentrating itself into a solid nucleus. In the second place the external word gives forth these ideas, these conceptions, thus brought to maturity. It transforms them, sends them forth into living and fruitful circulation in the thoughts of men, and finally it reacts upon the internal word, rendering it fuller and more exact. The internal word is distinguished from the external as a weak is distinguished from a strong state. It is a valuable instrument of the intellect, enabling it to run over more rapidly the ever growing mass of images which compose its wealth. Once created, once given forth as the echo of sonorous sensation, it seems to forget its origin and to have a life of its own, for it is no longer compelled to seek the means of continued life at the maternal bosom of sensation. It rather resembles an adult animal endowed with an independent vitality. It breaks away without violence from its source, and seeks the higher regions of being; henceforward it lives by thought alone.

Thought leans upon language, and associating itself with its

[1] "La Parole Intérieure. Essai de Psychologie Descriptive." Victor Egger.

life, makes it almost like a living thing, a supple vesture which yields to every movement, and, lending to thought its own brilliancy, marks it out clearly upon the field of consciousness."[1] Whether internal or external, language is never identical with intelligence, as if thought resolved itself entirely into words, for the words might be lost, and yet the thought remain, though vaguely, as is shown by the condition of our mind when we are seeking a fitting expression for some thought intuitively present, or when we are hesitating which to choose among several synonyms.

"A mind suddenly deprived of the inward speech would not be therefore reduced to impotence, but only hindered as a man suddenly deprived of sight, or a blind man of his stick. The inward language is generally a fainter echo of the sonorous word, of the uttered sound. To the deaf-and-dumb it becomes an inward tactile image, corresponding to the mimic language which he uses. This shows clearly the independence of the mind in relation to its instrument." Human language, as Victor Egger conclusively shows, is essentially the creation of man's mind, which, by its faculty of generalisation, frees the word more and more from its character of mere onomatopœia, and thus ceases to connect it solely with one of its attributes, and recalls it in its totality by a conventional sign. Here then is a positive operation of intelligence. Nor is intelligence to become idle after this first act; for it is of the nature of a representative sign to lose more and more of its significance, and consequently to annul itself as the result of what Egger calls the negative or mechanical habit, if it is not in some way revived by the active habit, or attention. "The positive habit quickened by attention, is the perfect habit; by it, and by it alone, the soul corrects its fundamental law of gradual dispersion, by introducing into the process elements of permanence, harmony, and relative unity. And the inward word seems to represent

[1] "La Parole Intérieure," Victor Egger, pp. 206, 207.

in us the perfection of positive habit. Attention is, in the last analysis, the principle which, transforming negative into positive habit, maintains the inward word in a state of perpetual and conscious activity. As a positive habit, it is a work of the soul; as a general habit, it is an instrument of psychical activity."[1]

We must refer the reader for the working out of these ideas to Victor Egger's book, which is remarkable for the fulness and keenness of its psychological details, to which no summary can do justice.

Human speech, then, whether as making the reason fully conscious of itself, or as manifesting it in articulate words, differs altogether from the language of animals, which is one of mere corporeal signs. We do not mean to imply that there is no relation between the two. With regard to speech, as to his whole existence, it may be said that man begins by the instinctive; only there is in man, in a virtual state, something more than instinct, an element of higher life, not to be developed from instinct alone by mere evolution, but which, coming from a higher source, will in the end transmute instinct into something higher. Man begins indeed with a cry, the corporeal sign, but he does not stop there, and rational speech is not the mere perfecting of the cry which was wrung from him by his first infantile sorrows. Neither the cry nor the interjection contains the principle of abstraction, of generalisation, of reasoning, inherent in true human speech. Max Müller quotes approvingly from Horne Tooke's "Diversions of Purley," the following passage:—"The dominion of speech is created upon the downfall of interjections. Without the artful contrivances of language, mankind would have had nothing but interjections with which to communicate orally any of their feelings. The neighing of a horse, the lowing of a cow, the barking of a dog, the purring of a cat, sneezing, coughing, groaning, shrieking, and every other involuntary convulsion with oral sound, have

[1] "La Parole Intérieure," Victor Egger, pp. 205–207.

almost as good a title to be called parts of speech as interjections have. Voluntary interjections are only employed where the suddenness and vehemence of some affection or passion returns men to their natural state and makes them for a moment forget the use of speech, or when, from some circumstance, the shortness of time will not permit them to exercise it."[1]

The advocates of naturalistic transformism have endeavoured to educe speech from the sign or cry by means of evolution. They have had recourse to two explanations, the one taken from pure physiology, the other from animal experience combined with sexual selection and the law of heredity.

The physiological explanation, given by M. Broca with his usual precision, is based upon the localisation of the faculty of speech, which has been assigned to one special spot in the left hemisphere of the brain; the slightest lesion produced in this spot brings on aphasia in various degrees.[2] This faculty then appertains to a cerebral development. It would have appeared in the higher anthropoid when the brain had undergone a sufficient modification.

It may be objected to this theory, that the localisation of the faculty of speech is not so evident as is assumed, since it must be acknowledged that in default of the left hemisphere, the right can perform the same functions in a tolerable manner, hence the function of speech is to a certain degree independent of the organ. This relative independence may very well be admitted without any question being raised as to the fact that, in relation to speech as to all the other operations of the mind, the function is, in the actual condition of our existence, inseparably connected with the organ. In any case the physiological explanation will never account for the rational element in human

[1] "Lectures on the Science of Language," Max Müller, p. 421.

[2] "Bulletin de la Société d'Anatomie," passim, 1861–1863. "Bulletin de la Société d'Anthropologie de Paris," 1861, 63, 65, 66. "Philosophie," A. Lefèvre," p. 531.

language. A certain disposition of the cerebral lobes will never enable us to understand the faculty of abstraction and generalisation, and will never bridge over, as we have said, the unfathomable abyss between motion and the consciousness of motion.

The explanation which Darwin attempts to give of the origin of language cannot be reconciled with that of M. Broca, for the very simple facts on which he founds his theory, would be incapable of producing any transformation in the cerebral organism. According to Darwin, in order to explain language we must find some sign which is not directly associated with present sensation, but conventionally in use ; without this the scale of language would be too poor and would contain too few notes. He professes to find this transition from the sign of pure sensation to the conventional sign, in the recollection which the animal has retained of certain complex motions that have been useful to it in causing a certain sensation, and which it reproduces by force of habit, even when this sensation is no longer directly stimulated. Thus kittens remember the pleasure felt in pressing against the furry bosom of their mother, and this recollection leads them to press in the same manner against any soft stuff. This habit, transmitted by heredity, produces reflex motions, and these in their turn produce various signs, more and more independent of present sensation. We cannot understand how these signs can contribute to form anything at all resembling speech. They have no meaning except as they express a sensation, as is shown by the example of the kittens pressing against a woolly substance. This habit of pressing against soft substances will always bear relation to a sensation, or else it will be a purely mechanical motion without any meaning. Darwin, in order to explain the growth of signs, appeals to what he calls the law of contraries, which makes it quite natural that the animal which has expressed in some way a feeling such as anger should give a directly converse expression to the opposite feeling. We ask why mere instinct does

not suffice in the one case as in the other. Darwin also adduces the direct action of the nervous system, which causes the face to contract in sorrow and expand in joy.[1] Man is thus led under all circumstances to express in the same way feelings of pain or pleasure; but as this result is produced purely by nervous action, this does not give us the true conventional sign. Finally, appealing to sexual selection, Darwin assigns a great influence on the development of language to the experience acquired by the male of the utility of varying and modulating his song in order to attract the female. He says that the song of the ourang-outang under such circumstances may give us an idea of the brilliant varieties of human language.[2] Why should the ourang-outang be selected for this honour, more than the thrush or the nightingale, whose thrilling raptures of song have never suggested a resemblance to the words by which man names and characterises things? All these explanations appear utterly inadequate when we reflect what a degree of rational development is implied in the fitting use of human speech.

We freely admit that, just as sensation supplies the material for intellectual effort, so the cry, the spontaneous expression of sensation, is the starting-point of speech, though it cannot be its cause. In this, as in every other case, it is the formal and final cause which is the true cause, combining and disposing the material elements in view of an end, which end, in the case of speech, is the expression of the reason. Cries, corporeal signs, have to be raised from the pure state of nature or of instinct, to the life of thought, reflective life, by means of an inward and higher principle. Then only do we get true human speech. Maine de Biran says: "While man is in the instinctive state all his impressions are confused, the ego, not having yet distinguished itself from outward things, distinguishes nothing in the things, isolates nothing, and consequently can distinguish

[1] "Expression of Emotions in Man and the Animals." Charles Darwin.
[2] "Descent of Man." C. Darwin.

nothing specially, which is the essential condition of language. He must then first of all get to know himself, distinguishing himself from the things about him by an effort of the will; and he then applies this distinguishing principle, which he has realised in relation to his own being as a whole, to his various perceptions. In each he distinguishes the subject from the attribute; he is able to affirm the distinct existence of the former and to use the verb *to be;* to say of the subject that *it is*, and to say also by means of attributes *how* it is, that is to say, in what manner it has been affected. The subject is the cause, the motive force; the attribute is the effect produced. In every proposition, therefore, there is a sort of renewal of the initial act which constituted the ego. Therefore language, in the complete sense, is proper to humanity only, because it alone is capable of an effort of volition."[1] Maine de Biran acknowledges that man does not begin with this thoughtful language, which is the affirmation of the ego by the will. It needs an act of the will to make a sound, a sign. "There comes a time when the life of the child ceases to be purely of the senses, and the life of the human personality begins.[2] Then begins the use of language, which does not express simply needs, but also ideas.

It does not follow that language is freshly invented by each man. The signs which he uses have become more copious from generation to generation, and are hereditarily handed down. The child learns to speak from its parents, who communicate to it all the processes of speech more or less perfected by their predecessors. But the quickness with which he appropriates them proves that he possesses not only organic aptitude, but the intellectual faculty of speech.

If we inquire into the origin of language, we must repudiate alike Bonald's idea that it is due to a direct revelation, and Rousseau's, that it is a social convention. If language, in form

[1] "Œuvres Posthumes," Maine de Biran, vol. iii., p. 161.

[2] *Ibid.*, p. 141.

and substance, in idea and word, was a direct communication from the Deity, man would be an entirely passive being, the potter's clay moulded by Divine power; he would not be a really free agent. He would be born fully developed. God has created him with an aptitude for language and the faculty of producing it, from the very fact that he has endowed him with reason and free-will.

The convention theory will not bear examination; for, in order to establish a language-convention, speech must be presupposed; and no subsequent difficulty could be so great as the initial one of determining the processes of speech, and connecting a certain meaning with every sound. How this connexion was established we shall never know. Did man, in primitive times, possess a keener perception of the harmonies between nature and his own mind? Max Müller says that the origin of words is a mystery in which we can only recognise a sort of mental instinct. All we can say is, that man possessed the faculty of giving articulate expression to the conceptions of his reason. Certain outward impressions produced a corresponding vocal expression, a cry, an interjection; gradually one general expression grew out of the many, and this produced the root, the representative sign of the general idea; and all this went on in accordance with the reason, which regulates the combination of external impressions so as to form perceptions, and regulates the combination of perceptions so as to form general ideas. The gradual formation of roots, which results from the fusion of a certain number of natural cries or imitations of natural sounds, goes on also under the guidance of reason. We have, in fact, a sort of process of rational selection.

We are thus led to assign a large share to onomatopœia in the formation of language, with the reservation that the mind of man has never confined itself to mere sound, that it has at once associated a rational meaning with it, and that it has quickly arrived at its root, the true key of language, since its principal

characteristics are abstraction and generalisation. The fact remains, nevertheless, that speech has always been in close correlation with Nature, through sensation directly emanating from Nature. This is its spring and source; thus all ideas, even the highest and most spiritual, are enveloped in a material form. Human language is a tissue of metaphors which gradually lose their vividness; it is an herbarium in which the plants are withered; but man only thinks in images; and his spirit itself is expressed by a metaphor, since it is called a *breath*. Just as the soul cannot be severed from the bodily shrine which it permeates and ennobles, so the idea is enclosed in language, but it rises above it in its purity, like the flame above the torch from which it springs.

It is of the essence of language to be progressive. We see it pass through three stages in its evolution among mankind. We have first monosyllabic tongues, that is to say, those in which the words are simply roots, without any indication of person, gender, or other inflexion, like Chinese; then we have the period of agglutination, in which two roots join to form one word, the first root retaining its independence, and the second becoming a mere modifying affix; lastly we arrive at the highest stage in languages with inflexions, in which the roots become fused and reciprocally modified. From this stage the instrument of language is perfect; it has all its flexibility, and lends itself to express anything. When writing is added to fix it, and give it an indefinite circulation, the essential conditions of progress are realised. We have not simply an evolution repeating itself in a limited circle; we have history, the incessant onward march of mind, advancing from stage to stage. Writing, like speech, proceeds from an innate faculty in man for reproducing by drawing that which he sees. He only attains to this by again having recourse to abstraction, for he can never reproduce the entire object. Writing begins by being essentially a drawing; then it develops into conventional signs which refer to sounds, then to the objects themselves.

After the ideographic phase, it becomes phonetic, and gradually assumes the syllabic and alphabetic form. Arrived at this point, it is able to fix human speech in all its complexity and variety.[1] But admirable and striking as this progress is, it is only the development of a primordial faculty which could never have been the result of evolution. This is true of language in its lowest forms, as we meet with it in the deserts of Africa or in some islands of Australasia. We feel, with Max Müller, that no analysis or any other process will educe articulate words from the song of birds and the cries of animals.

"I confess," exclaimed Sydney Smith, in one of his whimsical utterances, full of good sense, "I feel myself so much at ease about the superiority of mankind; I have such a marked and decided contempt for the understanding of every baboon I have ever seen; I feel so sure that the blue ape without a tail will never rival us in poetry, painting, and music; that I see no reason whatever that justice may not be done to the few fragments of soul and tatters of understanding which they may really possess."

We can hardly better conclude this chapter than with Humboldt's words: "Man is man only because he speaks; but he could not have spoken if he had not been already man."[2] In other words, in order to discover the fittest expression and instrument of reason, man must have been already endowed with reason, and raised above simply instinctive life; the conscious being, the ego, the person, must have been already there.

[1] See Philippe Berger's Article on Writing in the "Encyclopédie Lichtenberger."

[2] "Der Mensch ist nur Mensch durch die Sprache; um aber die Sprache zu finden muss er schon Mensch sein."—"Sämmtliche Werke,' Von Humboldt, vol. iii., p. 281.

CHAPTER V.

HUMAN SOCIETY AND ANIMAL SOCIETIES.[1]

MAN is essentially a social being. This characteristic he has in common with the lower animals; and it has naturally been construed, very erroneously as it appears to us, into another mark of his identity with them. In this instance again, the higher life is based upon a lower instinctive life; but it rises to a moral elevation which a mere natural evolution would never reach, for human sociability can no more be reduced to the pre-existent elements of animal sociability than reason and consciousness can be traced to the simple perfecting of the senses. We do not dispute the link which connects sociology with biology, so long as the two are not confounded, which is the tendency of the whole naturalistic school, from Auguste Comte to Herbert Spencer.

I. SPECIFIC CHARACTER OF HUMAN SOCIETY.—SOCIAL CONTRACT.

Let us first look at the fact to be explained, at human society, as we see it in its full development; in accordance with Aristotle's great principle that the true nature of existence

[1] See the Introduction to the "Histoire de la Sociologie en Général," in M. Espinas' book on "Les Sociétés Animales." "Système de Politique Positive," Auguste Comte. "Introduction to Social Science" and "Principles of Sociology," Herbert Spencer. "La Science Sociale Contemporaine," Albert Fouillée. "Origin of Species" and "Descent of Man," Darwin. Introduction to Buckle's "History of Civilisation in England." "Lois Scientifiques du Développement des Nations." "Les Colonies Animales et la Formation des Organismes," E. Perrier.

is revealed in its highest development. According to Aristotle, man is designed for social life, and human society only reaches its highest development when it is founded upon a community of ideas of good and evil, of just and unjust—when it becomes, in a word, a moral organism.[1] Aristotle does not represent this human society as a pure creation of the reason, altogether apart from man's lower nature. With his habitual keen and careful observation, he shows how it is modified by the influence of the human organism, and by geographical and historical environment; how there is nothing arbitrary in its elements, which are produced in such exact proportions, that the elimination or diminution of one of them suffices to change the whole social equilibrium.[2] Municipal government is simply the outward expression of the social organism, the bond which holds all its parts in due subordination.[3] But, however large a part we assign to the organic conditions of human society, it will still be distinct from any other, and in particular, from animal society, inasmuch as it alone has the idea of justice.[4]

This characterisation of human society is still absolutely true, after so many centuries. As soon as an aggregation of men emerge from barbarism, their relations become increasingly regulated by a principle of justice. Its manifestations may be at first rude and imperfect; but the principle of right is already asserting itself and regulating the mutual relations of men, both as to their actions and the exchange of property. We admit that the sphere in which social rights are recognised may be more or less limited, because the very notion of humanity is not at first grasped in all its fulness. It is only at a much more advanced stage that man is respected simply as man. It is at first the select few who have asserted their superiority by strength, by conquest, or by age, whose rights

[1] Aristotle. "Politics," Book I. 10.
[2] *Idem.* "Ethics," I. 5.
[3] *Idem.* "Politics," Book II. 6.
[4] *Idem.* "History of Animals," I. 10.

are recognised; but those rights are none the less reciprocal. No citizen, unless we except the chief, in whom the State is personified, has it in his power to do or to take all. It is not enough to be the strongest in order to offend against and pillage at will those who share our social life. There are, doubtless, many exceptions to this rule, but the rule nevertheless exists. Such usurpations soon bring down chastisement from the central power, whatever it is, for its essential function is to restrain lawless violence. Social justice consists in recognising what is due to each individual, and securing it to him. It is in relation to the extent of this protection that it has exhibited such diversities. Sometimes it has ignored rights sacred in themselves, such as liberty of conscience, as in the State of ancient times, which allowed no difference of religion. Sometimes it has left undefended one whole section of the population, ignoring the rights of the vanquished, the weak, the poor, the slave, as well as of women and children; but these deplorable limitations have never completely crushed the rights they ignored. Society in its progress has removed these limitations one after another, and has come to recognise not only the rights of the patrician, the citizen, the head of the family, but also the rights of man as man, and to lend to them the sanction, not only of a despotic or aristocratic power, but of the supreme will of the nation, which puts restriction on itself and appoints a government to be the guardian of justice under the control of liberty.

It matters little that, in opposition to this grand idea of human society, we are reminded how slowly it has been evolved, and how often history has belied it. We adhere to Aristotle's principle, that a thing is to be judged of by its highest possibilities; and we unhesitatingly affirm that society, as we see it to-day in its best form, as moulded under the two-fold influence of the Reformation in the 16th century, and of the French Revolution, is the true human society answering to its ideal destiny. This ideal has been in action all through the dim

preliminary stages, like the hidden ferment which educes from inorganic and apparently incoherent elements the organisation of the ultimate being.

In this characterisation of human society we are entirely at one with an eminent philosopher whom no one certainly will accuse of being biassed in favour of spiritualism. M. Fouillée, in his book, "La Science Sociale Contemporaine," acknowledges with Aristotle, "that in order to understand things and persons in the social world, as in the physical, we must try to apprehend them in their essence and their end, that is to say, in their natural perfection and in their highest possibility; and that this is the true state of nature of which Rousseau wrote in the 18th century.[1] This highest development of human society he recognises, as we do, in the establishment of justice by liberty. In this way the true social contract is realised, a thing not to be confounded with the Utopian creation known under that name. It has no analogy with that sort of arbitrary convention concluded one fine day by savages under the leafy shades of the virgin forest, without any explanation given of the way in which these savages became so suddenly enlightened, or how, after fighting over their acorns, they arrived, after a hasty deliberation, at the pact of justice and freedom, which must indeed have been long in practice before they could be competent to conclude it. This is Rousseau's illusion and error. That which is profoundly true in his idea is, that society is not really founded, that it is not truly human, till it rises from mere natural and instinctive sociability, to mutual consent, by virtue of which each of its members is a free agent, and bound to the maintenance of liberty. By virtue of all these consenting liberties, society from a simple natural fact becomes a moral human fact. We need not dwell on all the mistakes which the great tribune of the 18th century made in his first conception; the gravest of them was, that he made individual liberties the basis of

[1] "La Science Sociale Contemporaine," p. 76.

tyranny, by not allowing them to unite to form an absolute central power, and so to be altogether merged in a collective sovereignty. This mistake notwithstanding, he rightly based human society upon the consent of its members. Rousseau is in error when he asserts that this consent really creates society, as if it had no existence before. On this point the historical school is altogether right. Society exists already, in the natural state of man, but the natural must become a moral fact; and in order to this there must be man's free-will placed at the service of that idea of justice and right which exists in him in a virtual state and forms part of his higher nature. It is his moral nature which, in developing itself, or rather in manifesting itself by acts at once free and conscious, raises society in fact andof necessity to the height of a self-constituted organism. In this sense it may be said that the social contract is doubly natural, without at the same time giving place to any of Rousseau's illusions. The true evolution of society, which raises it, like all the rest of man's existence, from the purely instinctive state in which it commences, to a life of liberty, morality, and reflexion, consists in the ever growing recognition of the rights of man, in their voluntary acceptance and sanction by law, and in the elective designation of the power which is to be entrusted with their maintenance and application. As M. Fouillée says—the ideal State has for its materials and instruments natural forces; but its plan and governing idea, that is to say the universal contract, ought to be present in the thoughts of every individual.[1] That which constitutes a true human society, is the act of the will by which men recognise and accept their present and past relations, and agree on a common rule for the future.[2] In social science everything depends on the essential relation between the constituent elements of society, that is, on the individual. This primitive relation, this first combination, of

[1] "La Science Sociale Contemporaine," Fouillée, p. 17.

[2] *Ibid.*, p. 21.

which all the rest is to be only a transformation, is the contract which maintains the equality of the various liberties in their mutual association. Liberty is the supreme end in view.[1] In human society, men come to recognise and determine the totality which they have to form, the State in which all are to live. Human society is an organism which is realised by means of its own conception and volition, a society consciously and voluntarily compacted by reasonable beings, an organism which is the result of choice, not of necessity.[2]

This same moral and conscious character is exhibited in all spheres of society, from the individual family to the great human family, including all the separate States. This clearly marks the immeasurable distance between man as a social being and the animal. In the animal, sympathy is wholly instinctive; in man, intelligent wills recognise each other, and are united by a higher bond, that of mutual consent or contract. "Human society is a voluntary organism."[3]

Such is the social fact in its highest development, that is, in the full realisation of the idea inherent in humanity, and this by the admission of a philosopher who concludes by tracing all back to mere mechanical laws. M. Fouillée recognises in fact only one and the same evolution, from the aggregation of molecules which forms the mineral, to human society founded upon mutual consent and contract. If he admits the idea of liberty, he at the same time deprives it of all reality, for he accepts absolute determinism for the usual reasons which we shall discuss presently in treating of the origin of morals. According to him, the idea of liberty is one of those motor-ideas which become causes of action, and produce by illusion the same effects as if they were real. The idea is in reality a ferment, though it corresponds only to a chimera. Therefore the idea of liberty alone, absolutely contrary as it is to the

[1] "La Science Sociale Contemporaine," Fouillée, pp. 72, 73.
[2] *Ibid.*, p. 91.
[3] *Ibid.*, p. 251.

reality of things, is enough to mould human society and to introduce into it mutual consent or contract.

This motley theory abounds in paradoxes. We object first of all, that this assumed consent is a deception, a fiction, or else liberty would be a reality and there would be a breach in M. Fouillée's Chinese wall of absolute determinism. If the contract is a fiction, the idea of liberty has no efficacy. It follows that its *motor-ideas* are pure abstractions; for ideas which produce no real effect, are without any real force. Again, how can we allow that these *motor-ideas* effect any social progress whatever, since, in order to effect it, we must believe in it; and the ideas can only be efficacious in the measure in which they are believed? Now, as it is in the nature of social progress to diffuse true notions of things, it will infallibly dispel the illusion contained in the idea of liberty. It will lead enlightened minds to regard it more and more as a mere illusion; hence it will become increasingly powerless. That which M. Fouillée himself assigns as the cause of social progress will be paralysed and stultified by that very progress. It would be curious to see in what way M. Fouillée would escape from this vicious circle. Whence comes this *motor-idea?* Of what vapour is this strange light composed, which is at once a will-o'-the-wisp and a safe guide for humanity? How has mankind come to know it? How has it attained to consciousness of itself, to thought, volition, the conception of justice? M. Fouillée refers us to the mechanical applications of materialistic evolutionism, consciousness being only the obverse of motion, its inner aspect. As it is not really distinct from motion, it exists in a latent state in all the cosmic forces, and may become gradually disengaged from them. We will not repeat here the arguments we have already used against these mechanical explanations, which arbitrarily obliterate the difference between phenomena so dissimilar as motion and consciousness of motion. Let us only observe that M. Fouillée has made his task particu-

larly difficult by defining so clearly and amply as he has done, the specific characteristic of human society, in which he recognises the evidence of design, of conscious design, of the idea of purpose in view, of reflective thought, of the affirmation of the will, and finally of mutual consent. We find it impossible to imagine how he can abruptly educe this design, consciousness, will, from the primitive nebula, which does not contain them even virtually, and how that which he calls a purely mechanical sympathy in the animal, becomes in man the concurrence of intelligent and conscious wills, cognisant of each other and united together by a higher bond. Either less must be accorded to human society, or this wholly mechanical biology, which, by the way, its author simply affirms without proving, must be abandoned.

II. Refutation of the Sociology of Positivism and of the recent German and English Psychology.—Auguste Comte, Littré, Buckle, Bagehot, Jäger, Herbert Spencer.

The inconsistency which has struck us so much in one of the latest and most brilliant attempts at a theory of contemporary sociology, we find at the very source of the great intellectual movement whence have proceeded all the attempts to divest human society of its moral character. Auguste Comte, in his great system of positive philosophy, was the first who attempted to connect sociology closely with the physical sciences. Sociology was the topstone of his edifice, but it was made so dependent on the lower storeys, as to be really inseparable from them. Thus he called it social physics, and thus describes its place among the natural sciences. "Thus we have before us five fundamental sciences in successive dependence :—Astronomy, Physics, Chemistry, Physiology, and finally Social Physics. The first considers the most general, simple, abstract, and recondite phenomena known to us, and those

which affect all others without being affected by them. The last considers the most particular, compound, concrete phenomena, and those which are the most interesting to man. Between these two, the degrees of speciality, of complexity, and individuality, are in regular proportion to the place of the respective sciences in the scale exhibited. This—casting out everything arbitrary—we must regard as the true filiation of the sciences."[1] Auguste Comte assigned indeed to social physics a field of observation apart; but it was none the less entirely governed by the laws of the mechanical or physiological sciences. He sought first, in his biology, the outline of the laws which govern social facts; and it must be allowed that he did this with rare sagacity. Littré, who has been more faithful than his master to this physiological point of view, expresses it in terms sufficiently clear: "It is hardly needful to point out the relation of subordination in which sociology stands with regard to biology. The study of man as a social being is necessarily based upon the study of man as an individual; thus it requires, in order to give consistency to its theories, a knowledge of the general conditions under which life manifests itself."[2] Littré goes so far as to subordinate sociology entirely to biology; he makes the former absolutely dependent upon the latter, although it is its necessary complement as showing its ultimate purpose. Social physics is a resultant of general physics. Progress, in the history of humanity, consists in attaining to this positive conception of things, in leaving behind, in relation to this subject as to others, the theological and metaphysical state of the human mind, in order to arrive at the purely scientific or positive state.

The mechanical explanation of the social fact could not be more strongly stated; and yet it is the founder and leader of this school who is himself the first to desert its colours. In our general discussion of the principles of Positivism we have

[1] "Positive Philosophy." Auguste Comte.

[2] "Éléments de Philosophie Positive," p. 110, Littré.

seen Auguste Comte, in the latest development of his system, subordinating the lower to the higher in the explanation of things, thus giving implicit adherence to the principle of design, and allowing moreover an important part to the intuitions of the heart in his worship of humanity. This atheism is simply idolatry; Comte's first sociology is completely belied by this change of front. It is no longer possible to speak of a simple verification of positive facts, when once it is acknowledged that sentiment can anticipate science and construct a synthesis which is not simply the result of patiently observed facts. Sociology cannot be reduced to mere social physics if it is admitted that the life of the affections ought to be the governing principle of the reconstitution of society, to say nothing of the adoration of that great Being which, comprising all men past and present, entirely eludes the grasp of scientific observation.[1] Universal love becomes the keystone of the arch of social science; and the purely mechanical is eliminated. "If it is true," as M. Espinas observes, "that the highest properties of life—thought and love—have as their condition the lowest properties, it may nevertheless be affirmed that the mind is of a nature diverse from its instruments and is not limited by the conditions out of which it arose. The soul, in relation to its bodily organs, is not then a mere resultant, but rather an end, a *raison d'être*, and the only adequate one."[2] Such a theory absolutely forbids our confounding human society with animal society; the former has its purpose in itself, and while its elements and rude outlines may be traceable in the latter, it yet possesses a character of its own.

The objections we have made to Comte's system apply also to the English positivists, who belong most distinctly to his school. One of the most learned and powerful English exponents of his earlier teaching is Buckle, in his "History of Civilisation in England." He also, in the Introduction to that

[1] See the chapter on Positivism in the first section of this work.
[2] "Société Animale," Espinas, Introduction Historique.

work, seems prepared to recognise only social physics. Starting from the familiar results of statistics, which show a certain recurring uniformity in the history of crime, he lays down at the outset a system of absolute determinism, without even vouchsafing the least discussion to the principles of the opposite system. In his view the ruling principle in the development of human societies is their complete dependence on nature. Their whole character is determined by the greater or less abundance and accessibility of the food supply; and this is in its turn determined by the fertility of the soil and by climatic conditions. Wherever food costs little labour, manual labour is cheap, and the distance between the owners of the land and their workpeople is so much the greater. Hence the growth of aristocratic and despotic societies in Asia as in ancient central Africa, while in Europe the equality of social conditions is in proportion to the rate of wages, which is higher on account of the value of labour where the soil is less productive. To quote his own words: "If we investigate on a large scale the social and economical condition of nations, we shall see that, other things remaining equal, the food of a people determines the increase of their numbers, and the increase of their numbers determines the rate of their wages. We shall moreover find, that when the wages are invariably low, the distribution of wealth being thus very unequal, the distribution of political power and social influence will also be very unequal; in other words, it will appear that the normal and average relation between the upper and lower classes will, in its origin, depend upon those peculiarities of nature the operations of which I have endeavoured to indicate. After putting all these things together, we shall, I trust, be able to discern, with a clearness hitherto unknown, the intimate connexion between the physical and moral world."[1]

Without discussing a theory so exclusive, which ignores

[1] "History of Civilisation in England," H. T. Buckle, Introduction, p. 62.

utterly the great moral factors under the influence of which the inhabitants of a country, whose soil and climate have undergone no change, make radical changes in their social constitution from one age to another, it is obvious that, in Buckle's theory, sociology is always identified with material conditions. With man, no less than with the animal, it is all a question of pasturage. Yet in the second part of his Introduction the author seems to rise above this narrow materialism, and recognises another law of development in human societies, namely, the influence of mind upon nature. Looking closely into it, however, the contradiction is only apparent, for, according to Mr. Buckle, mind only escapes the power of nature when nature ceases to be opulent or formidable, as in the torrid climates of the tropics or the East. Wherever it displays its terrors or its grandeur, mind succumbs. It has no alternative between the intoxication of the senses and superstition, the mother of religion; religion being only the echo in man's soul of the terrors excited by the convulsions of nature. Man can only rise above this craven awe where nature has tempered the manifestation of her power, as in Europe. He is always dependent upon nature in the last resort, like the slave whose chain may be lengthened but not broken. It must be borne in mind that Buckle reduces the civilising power of the human mind to mere scientific development, and repudiates any educative influence in morals or religion. And yet history constantly shows us human society organising itself in accordance with its moral and religious beliefs, as around its axis. The author makes intelligence, which he disjoins entirely from the will, the great social motor. Intelligence, thus regarded, is wholly passive, as in the animal; for thought without volition is no longer reflective thought, and the true line of demarcation between man and the animal is obliterated.

We must admit, however, that Buckle, who is no stickler for system, gives us a picture of the scientific development of

the human mind, which is inexplicable apart from the development of spontaneity. The thirst for knowledge, which he describes, and the concentrated activity which the mind displays in order to satisfy it, imply energy of will in the highest degree. It would be easy, without going beyond the limited field within which the author confines social progress, to demonstrate the intervention of the moral faculties, without which the mind remains inert, altogether submerged by outward things, and unable to control them or distinguish itself from them, which is the only method by which man can attain to scientific knowledge. From the concessions which Buckle makes, it is clear that human society has a character peculiar to itself. Intelligence could not reach the development which he grants, unless it had risen above merely natural life and entered a higher region to which the animal never attains.

Positivism has not succeeded in adhering to its first propositions, identifying sociology with social physics. The problem has therefore been taken up by that great school of evolutionists, of which Positivism is always rather shy, because this school compels it to abandon its premisses and to enter upon those questions of origin which it has systematically ignored. We may just refer in passing to Bagehot's ingenious book on the scientific laws of the development of nations.[1] The writer assigns the first place to the principle of heredity, which augments and renders permanent all the advantages gained in the struggle for existence. Victory belongs to the social group which, under certain general or special influences, has succeeded sooner than its neighbours in arriving at self-discipline and unification under powerful control. In this way it has acquired at once a true military superiority and elements of organisation adapted to the manifestation of its true genius. After thus constituting its national type, it has become capable of passing through the salutary phases of political liberty. The Englishman may well say to himself, as he reads Bagehot's book, *De te fabula narratur.*

[1] "Physics and Politics." Bagehot.

Herbert Spencer gives us the boldest formula of evolution in its application to sociology. We shall have to inquire whether it is comprehensive enough to embrace social facts as we have observed and described them. M. Espinas' learned and ingenious book, "Sur les Sociétés Animales," though belonging to the same school, will furnish us with a partial refutation of Herbert Spencer, thanks to the copious information collected and given by the author, with perfect frankness, and with some important reservations which we note as confirming our view.

Sociology, in Herbert Spencer's great philosophical synthesis, is a special application of his fundamental principle of the conservation of energy through all its transformations, so that we find it always constant in amount and obeying the same laws of evolution. Society, like everything in the universe, emerges from the primitive homogeneous, following the law already explained, which impels the homogeneous to become the heterogeneous (which afterwards produces the multiple) and the indefinite to pass into the definite; the progress of organised life being always commensurate with the growing precision of its organisation. These more or less marked determinations are not only distinguished from one another, they also concur among themselves, and from their concurrence results a total. Each particular organism is the result of this process of specialisation and unification. This same process binds together the various individual units; and thus societies are formed, they themselves being composed of pre-existing associations; for everything, down to the very crystal, is an association. From the foot to the top of the ladder, the same mechanical law is in operation. Human society is subject, like all other societies, to the great law of rhythmic motion; that is to say, after the period of evolution will come that of disaggregation and dissolution. We must not then speak of progress, for the end of things is not annihilation, since energy is indestructible, but disaggregation. This

inevitable conclusion takes away much of the interest of the history of sociological developments, since nothing can avert the fatal issue.

Without repeating the refutation we have already given of the general principle of this fatalistic evolution, we may just remind the reader once more that it does not explain any of the real progressive changes of the organism; that it gives no account of its rise from merely mechanical existence to life properly so called, which is not simply a chemical compound; and that it throws no light on the transition from unconscious to conscious life, especially to reflective life characterised by spontaneity and free-will. We shall dwell more at length on the identification by the author of the principles of sociology with social and simply organic life. With Herbert Spencer the "body politic" is no metaphor, it is a solid reality. The life of a well-constituted human body is repeated without addition or essential modification in human society. First of all, in both cases the organism has reached its full development by the ever growing differentiation of the parts composing it. These in the end are co-ordinated and all concur in the same course of action by means of a progressive division of labour and an ever-increasing facility of intercommunication. Human society, like animal societies, progresses in proportion as it is sub-divided into more distinct elements, each performing its own task, combining with a view to a common end, and increasing the facilities of intercommunication. The same organs which enable the physical life to perform its functions are at work in social life. The organs of the body designed to promote nutrition, circulation, and relative life, are the stomach, the heart, the blood-vessels, and the brain, in which the nervous organism centres. We find these in a modified but still quite recognisable form in the social body. When the social organism reaches an advanced stage it develops within itself an extensive and complicated commercial organisation for the distribution of merchandise. It sends its currents through

all lands by channels which, in the ultimate subdivision of their branches, lead to the shop of the retailer. This commercial organisation brings within our reach both necessities and superfluities, while it seeks to make its own profit out of the transaction. The directing centre, which facilitates and apportions the combined action of the various parts and enables them to adapt this action to varying circumstances, constitutes the organic life of the body politic. The government is a veritable brain, to which converge all the local centres designed to communicate information and to give the initiative; it is this which secures the co-ordination of all the diversified operations of the various parts. Society, then, possesses in reality a complete nervous system. It has confided to trade the charge of working up its nutritive material. Thus there is an absolute agreement between physiology and sociology The condition of progress in both is due to the law of selection, to the struggle for existence, the conditions of which remain unalterable in passing from one sphere to the other; for Herbert Spencer, consistent to the end with the principles of his system, blames the useless philanthropy which exaggerates the protection of the weak and the ignorant, and so impedes the process of natural selection.

We know what a wealth of learning and of keen and careful observation the author of the "Study of Sociology" has brought to bear in his books on the constitution of society.[1] As an authentic representative of his race, he believes in the fullest individual autonomy. He thinks that the best way of carrying out the fruitful principle of division of labour, is to reduce to a minimum the operation of the central power. Herbert Spencer differs widely on this point from another writer of the same school, who, like a good Prussian Impe-

[1] See "Study of Sociology," Herbert Spencer, and also Schaeffle's work, "Bau und Leben des socialen Körpers." The author carries to its utmost length the analogy between the social body and the living organism. Thus he describes wealth as a social intercellular substance.

rialist, places science at the service of the policy of its High Chancellor. Jäger cannot be accused of a want of courage in his opinions, for he makes sociology merely one chapter of his manual of biology. He recognises only two great types of society—the centralising and the de-centralising type. He says:—"At the lowest stage are placed the 'States by aggregation,' States formed by the concurrence in one bond of individuals unconnected by kindred. This sort of State is only met with among men. Such are America and Switzerland. Above these are the 'States by generation,' so called because they are formed as the result of the numerical increase of the family by reproduction. Such are the States of ants and bees, and, among men, national States composed of men of the same race, as in Germany."[1] The State last described is perfection, for it alone sanctions the principle of subordination by establishing a natural hierarchy. States formed upon the basis of individual liberty are destined to perish, as is, for instance, the French Republic.

We see then that the whole of physiological sociology rests upon the identification of the social organism of humanity with the physical organism. We can only say, metaphor is not argument. There are, no doubt, certain general conditions found in all organisms—they are all subject to the laws of growth, of specialisation, of the concurrence of the parts in forming the life of the whole; but because human society, like a physical organism, must needs grow, specialise its functions, bring its organs into correspondence, establish a real co-ordination among them, it in no way follows that it comports itself in the same way as the physical organisation. If it is anything more than a mere body, a mere aggregate of cells, if it reveals new qualities, such as the reflective life, consciousness, spontaneity, this fundamental difference must be

[1] Fouillée, in his "Science Sociale," gives a long extract from Jäger's book. See the Appendices to M. Espinas' "Sociétés Animales," pp. 358 sqq.

traceable in the play and functions of its organs. It will grow, it will specialise its functions, and will co-ordinate them with a view to the whole, like all other organisms; but it will do so by introducing into these operations that which is characteristic of itself, I mean reflexion, the consciousness of its acts, free-will. To say that it conducts commercial transactions as it carries on digestion, and that it is governed by a mere nervous organism, is not only to efface the distinction between the higher and the lower life, but to do violence to our every-day experience; for it is idle to say that the process of digestion and automatic movement is not something altogether different from the pursuit of industry, commerce, or government. A human association is incessantly modifying its proceedings because it is conscious of them and retains control over them. It is this which must always distinguish it from a mere organism, even apart from the great moral principles which underlie it. I know that the evolutionist school gets out of the difficulty by merging in one the physical and psychical life of the individual, by refusing to distinguish between the motion of the cerebral particles and the consciousness of that motion. Taking this identification as its starting-point, it is easy to carry the same confusion into social facts; but the consequences are of no more value than the premisses.

These last remarks apply partially to animal societies, which cannot be brought under the laws of the inorganic world, remote as we hold these animal societies to be from human society. Is there, as a matter of fact, so great a difference between the two societies? This is the question we must now answer, in relation to the opinions of Espinas and Perrier.

III. Animal Colonies and Societies.—Perrier and Espinas.

Although Perrier and Espinas agree in the general idea of the social fact, and hold that society begins with the first aggregation of cells, every living organism being a true

colony, as Milne-Edwards says, a co-operative society if we adopt Hæckel's figure; yet they draw very different conclusions from this initial principle. Perrier holds that every animal is a collective organism, in conformity with the law which predicates that the living substance can only exist in the state of small masses distinct from each other, each constituting an individual.[1] These masses grow by incorporating various substances so long as they remain under a certain fixed volume; when they have reached this volume, they subdivide into two or more equal parts, which form fresh individuals like each other and like their common parent. These two acts represent, under the simplest form, nutrition and reproduction.[2] It results from this law that animals and vegetables can only be formed by an accumulation of these small elementary masses. They are really societies composed of innumerable individuals. They form organisms, for their organisation proceeds from their union. The diversities of these organisms are owing in the first instance to the very influence of social life, which mutually modifies those who are thus associated, and next to the application of the great laws of heredity and adaptation to environment. Perrier traces through the whole of the biological scale the development of these living associations, which become more and more complicated from the moment when the colony of associates ceases to be attached to the soil like the polypus, and passes from the radiate to the vertebrate form. It is in this way he explains the variety and progress of the living substance, and leads us through all the stages of evolution from the colony formed by simple juxtaposition, to the unified association of the higher animals. His system differs from transformist monism on two main points. First, he admits that there may be more than one kind of protoplasm, in which, according to him, parallel developments take their rise. Second, the organ or apparatus of

[1] "Colonies Animales," Perrier, p. 60.

[2] *Ibid.*, p. 61.

the organic life is, in his view, something more than the mere development of the living substance. He recognises in the protoplasm hidden springs which remind us of Claude Bernard's directing ideas. These hidden springs were necessary to the constitution and diversification of the special organisms. Living associations, while they remain in the primitive form of the animal colony,—that is to say, in simple juxtaposition,—arrive at a certain unity or analogy of consciousness, the same sensation passing from one associate to another under the influence of the same stimulation in the same environment. This is not the case with those truly unified colonies which are at the top of the biological scale. The author does not admit that consciousness of the ego is the simple resultant of the separate consciousnesses of the members of the colony; for the segments of which the physiological organism are composed can only yield that which they contain, namely diversity. The unity of the ego is owing to another cause. The ego is a psychological individual. Espinas, in his article on sociological studies in France,[1] in which he emphasises his disagreement with Perrier, says: "The thinker, when he finds himself face to face with human individuality, with the psychological ego, stops and considers. If he once admits that the psychical individual is only the echo of the organic *consensus*, and that this is the result of an evolution wrought by the universal *consensus*, he must implicitly accept all the consequences that have been drawn from evolutionist determinism in the psychological, moral, and religious order. He must then allow that consciousness is a relative thing, and that, just as the various centres of consciousness form only one single consciousness when the various organs meet in the same organism, psychical individuality being transferred from the parts to the whole, so, when various human individuals associate together and organise themselves, their partial consciousnesses are fused into one total consciousness and are thenceforth one. What

[1] "Revue Philosophique," June, 1882.

then becomes of the absolute, transcendent character of man?" Perrier cannot bring himself to sacrifice this character, and hence he cannot allow that psychical life proceeds from a purely physiological fact. While he admits a certain correspondence between the development of the animal colonies and that of human societies; while he recognises that the specialisation and division of labour and the increased solidarity of the associated existences are for both alike conditions of progress, he does not go so far as to assimilate them. His view of the unity of the ego as a purely psychological fact must alone forbid his acceptance of that collective consciousness of humanity, into which Espinas explains away that unity. Perrier concludes his book by a distinct affirmation of the possible immortality of man. He builds up his conclusion indeed on theories of the infinite ether; but as he himself only treats them as hypotheses we may pass them by, and confine ourselves here to the fundamental distinction established by him between human society and the animal colonies.

We have already said that the great point of divergence between Espinas and Perrier is, that the former admits collective consciousnesses in the rudimentary organisms as in human societies. If it is objected that society only exists by the association of distinct consciousnesses, he replies, that in every cell there is a latent consciousness, and that all these consciousnesses find their unity in the brain or in the unifying organ which takes its place in the lower orders of existence.[1] Each organic individual comprises then a plurality of subordinate individuals, since every organism is a colony of cells and these cells are the real individuals. While individual diversity is found thus low down where nothing appears but a vague unity, the unity of consciousness is found high up in the scale of existence, in those great associations which are called nations and which are nothing else than vast

[1] "Des Sociétés Animales," Espinas, pp. 214, 224.

collective individualities. It follows, that while there is multiplicity and society in the formless life which seems to us homogeneous and indivisible, individuality is to be found in that which seems a multiplex association.[1]

We cannot admit either hypothesis. To exalt the aggregation of cells to the rank of a real society, is an abuse of language; for you would seek in vain for any trace of sensibility in the segment of the worm cut into pieces or in the claw of an animal if it were transplanted to the paw of its congener; you cannot make out a distinct consciousness. The individual is an aggregate of cells, and not an association of individuals, for individuality only begins with consciousness of the collective life of these aggregated cells. That any one of them separated from the rest retains a certain sensibility and therefore a certain consciousness, argues nothing against our definition, for in its separation it has itself become a whole. Again, individuality only exists when there is in the organism the consciousness of its entire life, and there is society only when there is an association of individuals. An organism, then, does not become a society because it is composed of living cells. In order to become a society there must be several distinct organisms, each having a unified consciousness, however vague. On the other hand we cannot admit that a society of individuals proper can have only a single consciousness, as though it were a particular organism. The ego is only conscious as it distinguishes itself from the non-ego, that is to say from all that is foreign to itself. This it can do only by means of its unifying faculty working through a nervous organism peculiar to itself.[2] To assume that the distance between two nervous cells placed in different organisms no more interferes with the unity of consciousness than the separation of the cells in one and the same nervous tissue,

[1] "La conscience sociale est une conscience individuelle."—"Des Sociétés Animales," Espinas, p. 546.

[2] "La Science Sociale," Fouillée, p. 227

is to forget that in the case of a single organism the repercussion of all its sensations meets in the same central point. To talk of a collective ego is absurd. M. Fouillée observes very justly: "Different subjects may perceive the same object, may be moved in the same way, and agree in one common volition, but they do not cease to be distinct, separate subjects. The solidarity of the family, the nation, the race, may be very strong and broad, and may constitute a veritable unity, but it does not destroy the separate individualities, which would be the case if they were all blended in one common consciousness."[1] This unification of distinct consciousnesses is altogether inadmissible from a moral point of view, for there ceases to be any real responsibility if the individual consciousness is absorbed in the general. If it does not absorb it, there is no longer any identity between society and the animal organism. If the individual consciousness subsists apart from the general, there may be solidarity but nothing more. We shall see that it is possible to allow large scope to this great human fact without destroying the permanent distinctness of such individuality, and without being reduced to imagine society to be a sort of human polypary.

In a word, society, as we understand it, only begins with the association of distinct individualities; and if it tends to unite them by ever tightening bonds of solidarity and of mutual aid, it can never absorb them into one single consciousness under pain of forfeiting its true character. In Espinas' system society begins and ends too soon, for it begins even before the existence of an isolated individual, and it ceases to be at the very moment when it is about to be really constituted by the common consent of its members; for since men lose their individuality they are no longer distinct beings, and therefore incapable of association. We fully admit none the less that social progress is measured by the increase of true unity, which, while it does not mean absorption, does mean the ever growing and

[1] "La Science Sociale," Fouillée, p. 227.

perfecting harmony of all the parts of the whole. This unity rises in dignity in proportion as it becomes moral, conscious, an act of the will; and this it can only become, as Espinas himself allows, in human society. This alone suffices, in our opinion, to show the immeasurable distance on which we have insisted.

The very way in which the author describes the evolution of the animal societies shows that while they may be capable of greater progress than was supposed by the old Cartesian system, they yet stop short of the sphere of really moral and conscious life, because in this sphere, as in all others, the animal is under the complete control of sensation. Espinas says: "The boundary which divides spontaneous unreflective action from action which is in some way methodical and regulated by abstract principles, is a boundary which humanity has at some time crossed, but which no mere animal will ever cross."[1] The author of "Les Sociétés Animales" gives us a careful description of their evolution, from the simple society formed for purposes of nutrition, to that which constitutes a sort of clan; but he is the first to acknowledge that this evolution does not imply true progress. It does not deserve that name in the sense in which we apply the word to humanity; it is partial, confined not only to the limits of the species but to the limits of a particular variety of the species or even of the race. The accumulation of the effects of intelligence in the class of birds is like the gathering of rain in a string of isolated pools. The water fills each unequally according to its depth, but it does not form one continuous current capable of growing as it moves.[2] The author seems to forget sometimes that it is by the light of these principles we must compare the evolution of human societies with that of the animal colonies, for while there are evident analogies between them we must never forget the fundamental difference which appears on every step of the

[1] "Des Sociétés Animales," Espinas, p. 352.
[2] *Ibid.*, p. 437.

ladder of social development, and which gives a distinct significance to facts apparently similar. In the animals, sensation is always dominant, while reflexion and will take the leading part in the development of humanity. We must not forget, however, that sensation tends to the mental representation of the object, and that this representation, developed as it is in the higher animals, forms a durable bond, although they may not be fully aware of it, and may not rise to that conscious and voluntary relation which is the very essence of human society.

Let us follow Espinas as he traces these different stages of evolution in animal societies. We shall find the same stages reproduced in human society, but at the same time undergoing a radical transformation in the sense we have indicated. Espinas recognises three classes of animal societies: those of nutrition, reproduction, and relation. Each higher order reproduces those below it. It is evident that these societies of reproduction are also those of nutrition, and that the life of relation supposes alimentation and generation. It is only in the lowest grade of animal existence that we find one single element of association, as among the infusoria and the zoophytes; and even here it must be admitted that from its very earliest developments the alimentary association leads to a sort of attempt at generative union. Reproduction stands indeed in close relation to nutrition, since it consists essentially in diffusing and communicating the cellular substance accumulated by alimentation. It only assumes its true importance as an element of association when the distinction of sex has begun, when it has passed the inferior gradations of fission or of budding; and when the various organisms composing the domestic society, after their differentiation as matter, become attached to each other again by bonds of the affections in which we discern the rudiments of reciprocal feelings and ideas. The sexual instinct plays a leading part in the formation of animal societies. It is all the more powerful because it is

so concentrated and knows so small an admixture of the ideal. The blood of the animal is fired with an inextinguishable flame; it directs all its energies to one act, and sometimes puts forth an extraordinary amount of physical force to secure the desired gratification. It is this strong excitement which produces the marvellous rapture of song in some birds, and which causes the animal to display all its acquired advantages.[1]

To us this manifestation of animal beauty seems rather the effect of sense-stimulation than any properly æsthetic display; for the beautiful in this case does not correspond to any general notion, it is only the effervescence of sense-excitement, it is altogether objective and external. Having its source in the desire which is the effect of this purely physical excitement, it appeals to desire, and is entirely wanting in that disinterestedness without which there is no such thing as æsthetic feeling, as we shall presently show.[2] The sense of smell has a stronger influence in preparing the union of the sexes in animals than all the enchantments of song or splendours of colour. In some of the higher animals the sexual instinct seems softened by a sort of evanescent tenderness. Monogamy among animals is not due to any real progress in the development of the affections, but simply to the conditions of existence among those that practise it. Thus the larger birds of prey and the great carnivora, requiring the undisputed possession of vast hunting grounds, are led to live in isolated couples. Animal society formed under the influence of reproduction sometimes reaches a rare perfection, as is shown in the case of ants and bees. This perfection, which is due chiefly to instinct, infallible from the very first, is developed also by the stimulation of the senses, which is apparent at certain times; as, for instance, when the sentinels of a hive, becoming extraordinarily agitated, communi-

[1] "Sociétés Animales," Espinas, pp. 323–333.

[2] See M. Lévêque's interesting article on sexual selection, "Revue des Deux Mondes," Sept. 1, 1873.

cate their agitation from one to another.[1] Maternal love, with its prodigies of devotion, proceeds also from an admirable instinct combined with certain sensations, such as those which lead the bird to sit on her eggs. In fact, a sort of fever is produced in the sitting bird, especially in the blood-vessels on the under part of the body, hence the necessity of keeping herself still and of seeking the cooling contact of the eggs.[2] An initial organic motion is most frequently the determining cause of the mental process designed to carry it out. The sort of psychological development which clearly does exist in animal society is always subordinate to physiology. It is certain that the difference between the care that the fish takes of its progeny and the almost tender solicitude of the bird, is essentially due to the difference between the number of the eggs produced. The brood of the bird is always limited, while the spawn of the fish is multitudinous. The same law applies to the highest grade of animal societies, when the life of relation has begun, and we have a sort of rude outline of the tribe. The prolonged love of some males for their progeny makes the duration of the family tie in the rearing of the young a variable time. Physiology explains this advance. A certain natural moderation of the sexual passion, and a greater facility in subduing it, is necessary in order to keep the male near the female, for it is proved that under other physical conditions the males are inconstant and polygamous. The love of father and mother for their young in animal societies lasts only for one season, the beginning and end of which is marked by their physical condition. That which is most elevated in the life of relation is the association of congeneric individuals to form a sort of animal tribe. The sympathy which unites them is due in great measure, Espinas tells us, to the pleasure they experience in finding themselves among creatures like themselves (which is for them the easiest and consequently the pleasantest mode of

[1] "Sociétés Animales," Espinas, p. 403.
[2] *Ibid.*, p. 418.

representation); but this sort of association can only be possible for herbivorous animals which find their food easily.[1] As early as Aristotle it was remarked that beasts of prey lived solitary. Here then again the physiological conditions determine the physical state. Many of these animal tribes only last through the intervals between the reproductive seasons. As the sexual instinct reawakens they are broken up.[2] Thus it has been observed that the development of the tribe is in inverse proportion to that of the family; the family instinct in animals tends to isolate them. The most surprising social fact in the animal kingdom, is the existence, especially among mammalia, of recognised leaders, which are generally old males, the strongest and most experienced. Their supremacy is due only to their strength. Those who have been successful in the struggles provoked by the sexual instinct, have a recognised authority. The desire of the males to keep the females under their dominion is the origin of this sort of royalty, which is advantageous to its subjects, since it secures them protection and safety. There is no concert between the leaders of troops of wild horses in the great prairies of South America, nothing resembling the system of contract on which human society rests, because human society alone is governed by free-will and reflexion; that is to say, by conscious life.

We shall find all the elements of animal society reproduced in that of man, but transformed and permeated with fresh meaning, that is to say, wherever man fulfils his true destiny, for as a free agent it is possible for him to come short of it. He is capable of degrading as well as of raising himself. It is open to him to sink to a sheer animal life, to obey no law but that of sensual instinct, and to subordinate the noble life of relation to the appetites of nutrition and reproduction, or worse still, to degrade and violate these. Even then he is not like the animal; he becomes worse than the brutes, because

[1] "Sociétés Animales," Espinas, p. 576.
[2] *Ibid.*, p. 482.

his higher intelligence can devise means for the unmeasured and lawless indulgence of sensual gratifications. His peril is, that he may fling himself voluntarily into the deepest mire of uncontrolled and perverted instincts. His glory is, that while thus capable of falling, he can also resist all these impulses of his lower nature, and realise the true ideal of human society. When he does so, he transfigures the lower principles of association, such as those of nutrition and reproduction, setting on them the seal of reason and of conscience. But this can only be when he has submitted himself to the higher principles of the social life, and has recognised that the social relations are not merely matters of instinct but of covenant, based upon the consent of all the members of society, for the protection of their liberties. Such a society rests upon right, and sets before it, as an end, the solidarity or fraternity of mankind, which is, *par excellence*, the moral intention of society. Thus, instead of a tribe we get an organised nation, a State bound to defend the right against all individual violence, the grand institution of liberty and justice favouring the development of every individual, deriving its strength from the consent of its citizens, creating a veritable national unity which has no analogy with a collective consciousness substituted for personal consciousness, since on the moral individual devolves the task of fulfilling to his utmost the law of good.

Let us rapidly observe this phase of the great moral evolution which we have just broadly characterised.

When once the lower is made subordinate to the higher, it is interesting to see how the lower gets lifted up and how capable it is of being adapted to the noblest ends of the intellectual and moral life of humanity. If there is one social principle which seems destined never to rise above the material—it is the life of nutrition; and yet human society, wherever it fulfils its destiny, imparts even to this something of its higher life. The process of feeding plays unquestionably a large part in human life; it involves indeed the crucial

question, "to be or not to be"; it must be answered under pain of death. When it is answered in a mistaken or inadequate way, the results of the error are tragical. Under the stimulus of this universal and irresistible need, human intelligence has come into play. It has not been content with seeking hunting grounds, and feeding on the forest acorns. It has observed, tried experiments; and, with that faculty of remembering and foreseeing which is characteristic of intelligence, it has constructed engines for cultivating and fertilising the earth. The first tool fashioned by man asserted his royalty over nature, for he did not get it from nature; nature could only supply him with shapeless material. In order to mould it into shape, and to adapt it to his permanent use, he must rise above mere passing sensation, and work with an eye to the future; he must, in a word, perform an act of reason. Thus the tool is man's true sceptre; whether it is made of flint or wood or anything else, it is the result of thought. This is why the animal, guided by instinct, can effect marvels of construction by the use of its own limbs, but never makes a tool. The isolated cases adduced are of no importance; a monkey may have one day by chance leaned upon a stick, but he did not cut or shape the stick, nor hand it down to his posterity that they might improve upon it. Man, on the contrary, in fashioning the rudest tool, shows his aptitude to mould matter so as to make use of it. This aptitude goes on developing from generation to generation, as each profits by the experience acquired by its forefathers. Manufactures began as soon as the first arrow and the first hammer were hewn out of the rough stone. The weapons of the chase were soon followed by the ploughshare tearing its furrows in the soil and preparing it for the labour of the husbandman; then came the domestication of animals capable of contributing to man's sustenance; and last of all, his genius produced those skilled appliances of labour which seem by their fruitful action to transform the whole surface of our globe. Commerce, establish-

ing communication and exchange among all parts of the globe, is an equally marvellous result of the application of intellect to the necessities of nutrition. The mind of man, with its grand faculties of generalisation, has deduced economical and agricultural laws from observed facts. Political economy is *par excellence* the science of alimentation, and we know with what success it has discovered and determined the conditions of progress. All the important questions connected with property, regarded as the guarantee of individual liberty, belong to the same order; their solution has called into operation the highest principles of law. Lastly, it is not only freedom of action and justice which have been manifested in this sphere which at first sight seemed limited to the lower interests of man's nature. The brotherliness of mankind has here found scope for its most practical exhibition, in succouring those who have been vanquished in the stern struggle for bread, or in endeavouring to equalise the conditions of life for the future. However chimerical the Socialist movement in our day may have been, it is nevertheless a proof of these generous instincts of human society, which, by a strange inconsistency, the materialism so many Socialists profess, tends wholly to ignore. Christian charity ever at work to relieve the fearful suffering which accompanies the struggle for subsistence, ennobles this seemingly low sphere of the life of nutrition, by bringing to bear on it the holiest of moral forces—love at once just and pitiful. Finally, the petition, "Give us this day our daily bread," occupying as it does an honourable place in the great prayer of humanity, binds "with gold chains around the throne of God" this sphere of man's commonest physical need.

We have seen how large a part the instinct of reproduction plays in the development of animal societies. While they have no power to rise above the restless sensations which it awakens, it sometimes draws out something like tenderness and devotion, but is never capable of producing an affection which should outlive sensation and be capable of controlling and

purifying it. It is only in man that this purification takes place, and that the feeling of love, blended in its first manifestations with instinct, more and more rises above it and assumes a character of nobleness and sympathy which makes the union of soul predominate, though it does not cancel the attraction of beauty and its supreme charm. Modesty in the sexual relations, of which the animal knows nothing, makes us reticent of the outward signs of love. Human love begins with the enchantment of the eyes, but it is only truly worthy of itself when it has realised its ideal, the true harmony of souls. It is absolutely free in its manifestations. Hence it can be false to itself and draggle itself in the mire of sensual indulgence, where it is identified with the animal instinct; but when it fulfils its true mission, when it is manifested as the very flower of a nature in which the moral was meant to predominate, it tends to blend in one, not simply two organisms, but two individuals, who know how to combine respect with tenderness. True love is chaste even in its most poetic raptures. Thus regarded, love is something far above passion, which is a passive surrender to its enchantments. Love does not abandon itself to the mere play of the sensations; it gives itself freely and for ever, to be the sharer, not only of joy, but of sorrow; hence it is not consumed by its own flame. Since it was not born to mere sensation, it lives on, when the senses are dulled; and long after the smile of beauty has faded from the face that was so charming in its youth, the love remains, deeper, truer, stronger than ever. It has indeed a deathless life, or it is no true love. This ideal, often realised, is the only true one. It is this which strikes the sweetest harmonies from the lyre within; and under every sky the soul of man responds to its music with a rapture such as no inferior creature ever knew. How far this ideal of true human love lifts us above merely animal society based on the need for reproduction, and how true if it is that the instinctive life, as it becomes human, crosses a gulf which no evolutionism can bridge over!

Human society does not leave to itself this love capable of such wonder-working; it makes it a sacred engagement in the eye of the law. By means of contract, of free consent, sexual union becomes marriage, and the family is founded with its duties and its claims. We have no longer a fortuitous association terminable at will, and based solely upon the sexual relation, we have an institution established by law, which raises us from the state of nature to that of free and conscious life. It is not enough for a man to protect for a few days his feeble little ones, and then to forsake them when instinct is silent. He has to develop, not only a body, but a soul; to transmit to his child, in other ways than simply by the blood in its veins, the inheritance of acquired advantages; he has to mould its mind, to educate it in an atmosphere of tenderness and light, fitting it for the struggle of life and fighting with it its first battles. Hence the love and respect awakened in the child's heart by the names of father and of mother. Instinct has been transfigured, illuminated by the conscious life, by enlightened and voluntary affection. What type of humanity like that of the tender mother, the strong yet pitying and pardoning father! How infinitely removed from the animal, fostering for a few days its feeble progeny!

Families form nations and place themselves under the ægis of the State, which is the higher form of organised human society. Yet even the nation is not its final term; it forms part of a vaster, broader community—mankind itself.

While the individual always retains his proper value and can never be regarded as the transitory form of one great substance, as a mere wave lifted up for a moment on the ocean of humanity; yet humanity is not a mere abstraction, it is an unquestionable reality. The human individual is united to other individuals of his species by his very nature; they are his fellows physiologically and morally. Therefore transmission of the physical and psychical life from him to them is possible. There is not one of the human races which cannot cross with

another and make the cross fruitful; there is not one mind or heart of man which cannot communicate with some other mind and heart. What generation is to the simply organic life, language is to the life of the soul. It is the organ by which thought and feeling are transmitted. Now the very fact that such transmission is possible implies a pre-established harmony between him who speaks and him who listens. Their intellectual and moral constitution, then, is identical in its essence, for language would be only sound if it did not communicate comprehensible ideas and sentiments, that is to say, those which are already at least germinally present in the mind. Human souls are made to vibrate in unison; this is the strongest proof of their indestructible kinship. The power of sympathy leads to the same conclusion. How can we explain the influence of men over one another, the current of feeling which flows from one to the other and seems to carry away a whole assembly with one irresistible impulse, or which asserts itself as strongly in the intimate relations of private life? The love which draws human beings to each other, reveals even more clearly the affinity between them. Hatred, which is only the counterpart of love, does not destroy this affinity; on the contrary, the hatred is all the more intense the more nearly related the subject of it is to its object. It is just this indestructible kinship among all the sons of humanity which explains the great and powerful fact of human solidarity, in which we are all included and which brings us under the most various influences in the sphere of the family, the nation, or the race, so that we can often hardly distinguish in ourselves that which is our own, and that which we derive by heredity, or from the influence of environment or of history. It is true that this solidarity is reciprocal; we are not simply passive in it, we are active, and bring our share of influence to bear on the common stock; but this solidarity in itself suffices to establish the moral and intellectual unity of the race. M. Marion says: "Every human society, although it may be com-

posed of individuals, every one of whom is a person and has his own separate destiny, forms a living whole, the component parts of which are inseparable (*solidaires*) alike in their own time and in the course of history. In the same way humanity itself, composed as it is of distinct groups, each having its own proper life, is in its turn a living unity." [1]

This unity is equally obvious from our primary moral obligations, which imply two things: first, according to the principle formulated by Kant, absolute respect for every individual of our fellows, and next the duty of brotherhood, which makes subordination to the general good to be the end and aim of the life of the individual. For in truth, the individual cannot conceive himself apart from his species; to it he owes his being, for generation is essentially a function of the species which is perpetuated by this means. To it he owes his physical development, for the species not only transmits to him his organism, but also provides, in the care of father and mother, for the cherishing of the feeble spark of existence and its protection from all that threatens it in its defenceless state. To it he owes his mental development, for the species transmits to him language, which is not only a means of intellectual communication, but also the great instrument for giving precision to thought, always vague till it has found expression. It is the species which, from the very dawn of life, transmits to him the accumulated treasure of progress already achieved, so that he has not to begin history over again. It is the species, in fine, which furnishes him with the great sphere of his moral energies, by calling out his faculties in the discharge of his high obligations.[2] M. Charles Secrétan, in his "Philosophie de la Liberté," well says: "If man cannot perpetuate himself, or even continue to exist, in a state of isolation, it is because man is not complete in himself; and if in the individual there is always something responsive to his fellows, if he rejoices in their joys, suffers in

[1] "De la Solidarité Morale: Essai de Psychologie Appliquée." Marion

[2] *Ibid.*

their sorrows, thinks their thoughts, it is that he is not constituted as a being apart from others, a separate monad. The individual is always more and less than he seems. At once the whole and a part, he only attains the full consciousness of what he is, when he is fulfilling his own proper function in the great whole. Society is for him as he for it. On the other hand, if he were not a complete being, endowed with intelligence and free-will, he could not receive that which the species has to communicate to him, for in order to acquire it there must be a corresponding receptivity." [1]

It must be added, that the species would be nothing without the individual, for it can only realise its highest ends through the individual. Neither consciousness nor free-will is conceivable apart from individuality. The ego only exists in the moral personality; and this cannot, as we have already shown, be merged in a collective, indeterminate consciousness deprived of all unity. That which we call the conciousness of a people, the consciousness of humanity, is a very real thing, but it is composed of individual consciousnesses. In order that humanity may be able to say *we*, each one of its sons must have said *I*. A *we* not resolvable into distinct individualities would be a mere abstraction. This is especially true when we are speaking of moral unity; its freedom is its strength. All that is taken away from the particular units is taken away from the whole. Take away individuality, reduce it to a mere semblance, and you have at once destroyed morality. The individual, then, has an absolute value; he is not meant to be lost in the species, but as his own life becomes more full and definite it increases the general prosperity of the race; for in this sphere of the higher life, progress is measured by the fuller determination of the individual life, which is always to the interest of the whole. It follows that there is no antinomy between the idea of species and that of individuality.

Adhering to the facts which natural science can verify, we

[1] "Philosophie de la Liberté," Charles Secrétan, vol. ii., p. 204.

are strongly inclined to admit the physiological unity of the human race, having already shown its intellectual and moral unity. The elements of truth which we have recognised in Darwinism tend to support this opinion, which is defended with much argumentative force by such men as Quatrefages. The variations resulting from natural selection, from the influence of environment, and from the effects of heredity, amply explain the diversity of races, without the necessity of having recourse to a plurality of species, against which we have the evidence of the recognised fecundity of all the human cross-breeds. We can only refer our readers to Quatrefages' lucid demonstration, which explains in the most satisfactory manner, not only the diversities of races proceeding from one common stock, under the combined influence of migrations and cross-breeding, but also shows the same causes producing the same effects on a small scale in our own day.[1]

In any case, the moral unity of mankind remains beyond question. We do not say that this unity has been felt and recognised in all ages. The consciousness of it has gradually grown clearer as it has been raised from the purely natural into the higher sphere of the moral life, till in the end man has learnt, not only to acquiesce in but to desire it. The highest form of society was to receive this seal of the free and conscious life which separates it from animal societies. Hence it has needed long ages for the great idea of humanity to overcome the exclusivism of the clan, the tribe, the nation. The ancient world was built upon principles the very reverse of this; each nation applied to other nations the insulting name of barbarians. The alien was as much outside the protection of law as the vanquished foe; the rights of man, as man, had no recognised existence. Philosophical thought, indeed, anticipated free institutions. Cicero, as a true prophet of the ideal, spoke of the republic of mankind; but it was not till the Son of God had appeared in history, that the grand

[1] "De l'Espèce Humaine." Quatrefages.

word of emancipation was spoken: "In Christ there is neither Jew nor Greek, barbarian, Scythian, bond, nor free." On that day the great human society broke all the fetters of tribe and nation. But many centuries had yet to pass, and many a moral battle to be fought, before the idea of humanity was accepted in all its breadth and embodied in free institutions. It will be indebted for its final triumphs to the twofold influence of the Reformation and of the French Revolution. It will always have to contend with individual and national selfishness; but it is none the less true that all progress in history is bound up with its triumph, that is to say, with its free acceptance and free realisation, leading to generous self-devotion to the common good.

It is when we rise to this moral elevation that we discern most clearly the distinction between human society and animal societies, for it is impossible for mere instinctive life to lift us so high. It is from this point of view also that we most clearly perceive the ever widening divergence of the two societies; for whereas the struggle for existence makes it a necessity for the various animal societies to disperse and isolate themselves as far as possible, human societies, on the other hand, find the most favourable conditions of progress in an ever tightening bond of solidarity, securing the free co-operation of the intellect and the affections. M. Carrau says: "The more men from different quarters of the globe minify the differences which divide them, and develop the faculties in which they resemble one another, the more do they increase their productive powers. Isolation impoverishes; frequency of social intercourse and the multiplication of commercial transactions enriches. The reason of this is obvious. This intercourse and these interchanges not only stimulate individual energy; they greatly promote the development of science, the power of which is in a sense infinite."[1] In the animals, the struggle for existence is the more successful, the more distinct are the

[1] "L'Homme et l'Animal," Carrau, pp. 113, 114.

needs and tastes of the creatures. The only species which live in societies, are those which are always sure to find a plentiful supply of their food within easy reach. Human societies, on the contrary, measure their progress by a system of free exchange in the largest sense of the word, an exchange which is even more essential in the moral order than in the sphere of economics. To build up the moral unity of the race by free and universal consent, is at once the highest social ideal and the truest interest of humanity.[1]

[1] M. Espinas' ideas on the collective consciousness of humanity have been enlarged upon with much eloquence in a strange book which has found not only admirers but believers. It is entitled "L'Univers Visible et Invisible," by Henri de May. It is one of those attempts at Theosophy which preclude discussion by their oracular tone and the absence of consecutive reasoning. The author bases all his system upon the analogy between the visible and the invisible universe, the former being the faithful reproduction of the laws and conditions of existence in the latter. As multiplicity and subdivision are found everywhere in the lower orders of existence, the author makes subdivision a character also of the ego, which he regards as only an aggregate of cells; and he ascribes this same character to God Himself. This book, which is full of flashes of genius and is of a high tone throughout, has nevertheless the grave fault that it explains the higher by the lower and makes the greater proceed from the less.

FOURTH BOOK.

THE PROBLEM OF DUTY.

CHAPTER I.

PRINCIPLE AND ORIGIN OF MORALITY.

In our study of man, we have constantly been brought face to face with the problem of free-will. We have seen that in every sphere of human life this is man's true characteristic, and forms the dividing line between the instinctive animal life and the life of consciousness, both from an intellectual and a moral point of view. We must now look at it more closely, for it is one of the crucial questions of our day. We have to inquire whether determinism or the doctrine of man's free-will is true; whether or no there is such a thing as morality; for if the conclusions of determinism are borne out by the facts of the case, then duty is a delusive name, and necessity takes the place of moral obligation. The problem of man's freedom thus involves the problem of morality itself, its principle and its origin. We shall endeavour to be as definite as possible in our statements, in dealing with the various forms of determinism in our day. We shall find indeed that they only embody under fresh phases objections made long ago, but they present them in the garb of modern science, and with much subtlety of argument.

We shall not occupy much time in pleading this great cause, because we are sure that it is already prejudged in the minds of all those who need that it should be pleaded at all, and who wish to test in the crucible of the analyst the primary moral facts of conscience. After what has been already said of the true experimental method, which is bound to diversify its applications according to the different nature of its subject;

we are entitled to be moderate in our line of argument. All we have to do is to set in full relief the fact of conscience, and to guard against any attempt to falsify or impugn under pretext of explaining it.

I. The Morality of Pleasure and of Self-Interest.

The school which recognises nothing but sensations, and which we trace under various forms in all systems opposed to a purposive cause, either in the world or in man, could not accept, without belying itself, the idea or the fact of moral obligation, for this implies an *à priori* element which would overturn its whole structure. The idea of duty is in sharp contradiction with every doctrine which recognises only facts that are contingent and perceived by the senses. If reason and conscience are indeed only the result of combined sensations, there can be no such thing as an antecedent law which lays its commands on man and treats him as a free and responsible being. Since the principle of his conduct cannot come from within, it must come from without, consequently from sensation. Now sensation knows no category but that of pleasure and pain; good and evil are merged in sensations pleasant or painful. The morality of pleasure is on this theory of necessity substituted for that of duty. It may be refined and raised from simply sensual pleasure to pleasure of a higher and purer order. The attempt to reconcile personal gratification with the happiness of one's neighbour; to substitute for pleasure utility which is its serious side; to seek the general good, the interest of the greatest number; these are all phases of the same principle—the quest of personal satisfaction, interest as opposed to duty, to moral obligation. All attempts to merge these two principles have failed. Let us rapidly glance at the various steps of this ladder, which has its foot in the low region of the instincts, and whose topmost round scarce reaches anything higher.

The great master of the morality of pleasure is Epicurus. No one has set it forth with so much logic and so much art as he did in the philosophic tongue of Greece, that noblest instrument of thought.[1] To him reason is the voice of Nature within us, and proceeds from sensation. "The intellect is entirely corporeal," he says, "and pleasure is its good." Pleasure is the beginning and end of human life.[2] We need not consider any other motive. Philosophy has no other end than to supply us with the means of pleasure; she is the artist of the sensuous, and her province is to make pleasure exquisite.[3] Epicurus admits a certain choice among the proffered pleasures, even though he does not hesitate to say that the root of all good is in the gratification of the appetite.[4] This choice is not decided by any intrinsic superiority in one pleasure over another, which would imply a moral test of which sensation can know nothing; the only thing is as far as possible to avoid suffering. The best means of doing this, is to eschew all excess, to allow some share to the satisfaction of the intellect and above all to keep out of public life, and to pay as little attention as possible to social duties. In this way man attains to *ataraxy*, that sort of tranquillity of soul which is equivalent to insensibility.[5] To make it more complete, Epicurus endeavours to chase from the mind of man the importunate phantom of the life to come and of Divine judgment. He is especially anxious to get rid of the gods, as spectres at the feast, without, however, absolutely denying their existence. In order to make a choice among pleasures possible to man, Epicurus attributes to him a sort of liberty;

[1] Upon Epicurus see "Histoire de la Philosophie Antique," vol. iii., "Historia Philosophiæ Fontibus Hausta," "La Morale d'Épicure et ses Rapports avec les Doctrines Contemporaines," by M. Guyon.

[2] Ἀρχὴ καὶ τέλος, "Diogenes Laertes," vol. x., p. 128.

[3] "Artifex conquirendæ et componendæ voluptatis." Cicero "De Fin." Book I., ch. 23.

[4] Ἀρχὴ καὶ ῥίζα πάντος ἀγαθοῦ ἡ τῆς γαστρὸς ἡδόνη.

[5] "De Naturâ Rerum," Lucretius, Book II., v. 171.

and in order to give it a basis, he assigns it to the atoms which in their combination form the world. He admits that they have not always been subject in their movements to inflexible laws, that they have undergone some changes due to chance; and it is this which gives scope for a certain play of liberty in the human organism, of which they are the components. This is what is known in his school as the *clinamen*.[1] It must be owned that there were few among the Epicureans who made use of this freedom of choice in favour of temperance and intellectual enjoyments; for the most part they sought their satisfaction in giving reins to their sensual passions. After all, they knew that the morality of pleasure is only a matter of preference, and that every man is free to follow his own tastes; so they followed theirs without scruple, and despised for the most part the choice fruits which the master hoped to cultivate on the tree of sensuous delight. They clung to those grosser appetites which he had not proscribed. The indulgence of the flesh was the opening word of their system, and it is not unjust to say that it was that which they always understood best. They ended by forming the sensual herd which Horace would not have so severely satirised if they had not deserved it.

In truth this doctrine of pleasure did not fulfil its promises. With the master himself it led to a sort of pessimism; for the *ataraxy* which he recommended, and which was complete only in celibacy, was a condemnation of life in its natural development, especially in the society of his day, where public life was everything. Epicurus recognised that an existence broadly human must of necessity be unhappy. For men who believed only in pleasure to retire from the world, was to confess that they had failed to find pleasure in it. That stunted, narrow, cramped, colourless existence, which has for its one motto "Abstain," is the first step to suicide. It is not strange then that Epicurus should have counselled a voluntary death when

[1] "De Finibus," Cicero, Book I., ch. xv.

life became intolerable. He had thought to console man by stifling in him the desire of immortality; and yet his most illustrious disciple, Lucretius, described himself as consumed and panting with an unquenchable thirst.[1] The poet of pleasure utters one of the most despairing cries that the world has ever heard. He declares that the life of man is but a death, and that the Promethean vulture is devouring his heart.[2] It was needful, then, that the morality of pleasure should be modified and expanded in order to procure the satisfaction without which it was a mockery. It was needful also that it should be shown to be capable of application to social life, so as to render it under its ordinary conditions possible and endurable.

The Epicureans of the 18th century attempted to bring their doctrine into harmony with the aspirations of their age. Repudiating the system of absolute tyranny which Hobbes, with severe logic, had deduced from it, they tried, with Helvetius, to make the State the arbiter of morality. Legislation was intended to be a substitute for the inner law, whose existence was denied; and legislation was to teach men to reconcile their private interest with the general good. Like a skilful carver, who can make a god out of the stock of a tree, the law was to form a virtuous people by order. Helvetius forgets to tell us whence this legislation was to derive the very idea of virtue, and how in the first instance it was to realise the good, and inculcate it in beings destitute of any predisposition to accept it. After adopting Lamétrie's well-known saying, "The senses are my masters and my philosophy," it could aim at nothing beyond animal gratification, for it contains no moral principle to guide either society or the individual. The pantheism of Spinoza, which obliterates all distinction between the subject and the object, was equally powerless to rise to any conception of the moral or social law.

[1] "Et sitis tenet semper hiantes."—"De Naturâ Rerum," Book III.
[2] "Mens sibi conscia Prometheus mors vita est."—*Ibid.*

Bentham made an earnest effort to derive from the philosophy of Epicurus, to which he remained unswervingly faithful, a social principle which, by widening the sphere of the individual, should satisfy his craving for action, if it were only to escape the torture of idleness. He tried to create a reaction against the two great imperfections of Epicureanism, which are, on the one hand, the spirit of isolation, fatal to the social body, and on the other, the pain of inaction, unbearable to a naturally active being. For man not to act is to revolve in a vacuum, like the wheel of Ixion, of which Lucretius speaks. Bentham endeavours to justify and exalt the morality of pleasure by turning it into the morality of utility and giving it as its end and aim the interest of the greatest number.[1] He is not less opposed than Epicurus to intuitive morality; he repudiates with scorn that which he calls *ipsodixism*, under which grotesque name he includes all that would imply that God has spoken to us Himself (*ipse dixit*), in the depths of our consciousness.

"I have accepted as my guide," says Bentham, "the principle of interest, and I will follow it wherever it may lead me." Virtue must be set aside, as of a piece with the chimera of a moral sense. "When the moralist speaks of duty, every one thinks of his own interest." Conscience is only the favourable opinion which a man conceives of his own condition, and is of value only so far as it is in harmony with the principle of utility. "Virtue is a skilful economist who serves his own interests." Virtue is only a provisional sacrifice, tending to the maximum of pleasure, an advance of capital which is to be returned with usury. The drunkard is right in so far as he seeks enjoyment in excessive drinking; his mistake is, that he gets, after all, less enjoyment than the temperate man, and intolerable sufferings to boot. Sacrifice is simple folly; it is the sin

[1] See M. Guyau's book, "La Morale Anglaise Contemporaine, Morale de l'Utilité et de l'Évolution." See also "Réfutation de la Morale Utilitaire, Exposition et Critique des Systèmes qui fondent la Morale sur l'Idée du Bonheur." L. Carrau.

of sins in the eyes of the utilitarian philosopher. Any pleasure is legitimate which is not outweighed by the pain attending it. Utilitarian morality is confessedly the systematisation of selfishness; 'only self-interest, rightly understood, includes the pleasure we derive from sympathy and benevolence, as well as the reciprocity of kindly feeling which they bring. Solidarity, or mutual aid, once accepted by all as a principle, is a source of perpetually augmenting pleasure and advantage. It is thus that Bentham always identifies private with public interest. "Social virtue is the sacrifice which a man makes of his pleasure to obtain, by serving others, the maximum of pleasure for himself." There is no surer way of attaining to the maximum of happiness. Thenceforward, our acts being judged only by their results, apart from all consideration of motive, morality has nothing to do but to bend to the laws of arithmetic. Evil being the outlay and good the income, we can reckon up our pleasures under the following heads: first Intensity; second, Duration; third, Certainty; fourth, Proximity; fifth, Productiveness; sixth, Purity, which means simply the absence of all pain; seventh, Comprehensiveness. The maximum of pleasure is realised when our interests fall in with those of others, equality at least being attained in the long run between the pleasure given up and the pleasure received. Natural rights are ignored on the same ground as duty. Society is only the guardian of men's interests. Crime is that which compromises the general interest. Punishment does not deal with the phantom called guilt; it is designed solely to protect the interest of the greater number, and should be proportioned to the degree of sensitiveness in the delinquents. Hence Bentham's pathological studies. Law, being always a diminution of our individual enjoyment, must (in opposition to Hobbes' absolutist theories) be kept within as narrow limits as possible. Morality is summed up in the words: "Seek thy happiness in that of others"; politics, in these words: "Seek the happiness of all in that of each.'

Sympathy and selfishness are one and the same. Even Adam Smith, who enjoins sympathy with an earnestness which does him honour, in no way changes the basis of the system.

Without for the present entering into any discussion of the principle of utilitarian morality, under the form in which Bentham presents it, we observe that it does not answer its end, for it does not supply the means for giving predominance to the general interest; yet this is the indispensable condition of social life. The advance upon the doctrine of Epicurus is thus only apparent; and utilitarianism must seek other sanction. In truth, nothing can be more arbitrary than the calculation of interest on which Bentham's system is based, since the way in which we are affected by impressions from without depends entirely on our disposition at the moment, our sensations following the caprices of our mood and the fluctuations of our health. From Bentham's point of view, we have no motive for action except the desire for the maximum of pleasure for ourselves. To bring out the conclusion that this maximum will only be obtained by subordinating our actual immediate interest to the general interest, whereby we shall by-and-by be compensated, requires a whole train of reasoning. What is there to constrain us to follow it out and to decide in favour of the general interest? Let passion come in with its burning urgency, and it must carry the day at once against the cold logic which has nothing to oppose to it of a really higher order. These scales in which we are to weigh our profit and loss, before deciding to renounce the pleasure of a day, will soon turn in favour of immediate satisfaction. To ensure any other result, we must be able to meet one feeling with another of a higher order, and not be obliged to rely on doubtful chances and cold arithmetical calculations. The moral consciousness, with its spontaneous intuitions, can plead successfully the cause of generosity, but it is excluded. Some equivalent however must needs be found, something which, without being true intuition, simulates it, takes its place, and

acts powerfully upon us at the very time when we have to decide against the allurements of present pleasure.

The attempt to find this equivalent was made by the Associationist school in its early phase under Mackintosh and James Mill. To Stuart Mill was reserved the honour of carrying it through.[1] He rejects as decidedly as Bentham, the idea of an intuitive conscience, a moral *à priori*. In truth, notwithstanding the elevation of his great mind, he adheres to the sensuous doctrines of Epicurus; he recognises nothing but pleasure and utility as the moral criterion. With a generous heart, full of the truest love for humanity, he is even more determined than Bentham to show that private interest is identical with the general interest; while he never disguises from himself that private interest will always carry the day over the general interest, if benevolence, sympathy, the thorough conviction of the harmony between the two, has not taken possession of the soul, whatever it be that we call by that name. As it is not possible, according to Stuart Mill, to connect these sentiments with innate pre-existing dispositions, he has recourse to his great system of the association of ideas, which, by passing constantly through the mind in a certain order, have formed themselves into an inevitable sequence without any effort of thought on our part.[2] Just as the miser, after long experience of the advantages procured by the possession of gold, no longer needs to think of it, but almost spontaneously and involuntarily associates the idea of these advantages with the metal which he worships, so that this metal alone represents to him all that he could acquire by its means; so man, having repeatedly experienced that his own private good has coincided with the general good, no longer separates them, and does not need to reason or calculate in order to decide in favour of the general good, but rather inclines to it by a sort of instinct which is only the result of an association

[1] "Utilitarianism." J. S. Mill.

[2] *Ibid.*, chap. iii.

of ideas strengthened by habit. The sanction of morality has no other origin. The frequency of lamentable consequences accruing from our acts of selfishness comes in the end to connect the idea of pain with the exclusive pursuit of our own interest. Remorse is a result of this association of feelings, which maintains throughout its purely passive character. Punishment is simply a defensive measure, to secure the community against all that injures its interests, and it is on this ground alone that we dread it. Thus is formed within us the instinctive idea of justice and of law. The feeling of our responsibility arises out of the fear of bringing upon ourselves the annoying effects of these defensive measures. As a means of assuring the safety of society, punishment is perfectly legitimate, without implying any responsibility on the part of the criminal. Stuart Mill thinks he has avoided, by these subtle distinctions, the slow calculations which Bentham's theory demanded, and has secured that rapid decision of the individual which will lead him in each special case to subordinate his own interest to that of the many. But the problem is not solved, for if the individual once comes to perceive how artificial is the bond which connects the idea of his private interest with that of the public, it will lose all power over his mind. Stuart Mill's moral system will not bear the light, for the more clearly it is set forth, the more certainly will the fatal secret creep out, and the more shall we come to disregard as fictitious the feeling of obligation that results from a mere association of ideas. It is not possible for the refined utilitarianism of this great thinker to escape this result; its principle evanishes as soon as stated. Once understood, it ceases to be efficacious. If we look then only at utilitarianism in itself, without going any higher, we find it is reduced to an absurdity and stultified by an inherent contradiction. We know indeed that Stuart Mill fenced his system against any relapse into the selfishness which his generous heart abhorred. He tried to set up a hierarchy

of pleasures, distinguished from each other by their quality. The pleasures of the body were to be subordinated to the delicate pleasures of the mind, in virtue of the dignity of man, to which he boldly appealed. "It is better," he said, "to be a dissatisfied man than a satisfied pig."[1] These sentiments do him honour, but he did not owe them to his utilitarian principle. In order to establish various degrees of pleasure, we need another criterion than the agreeable or the useful, which furnishes us with no scale of perfection. The dignity of man is only conceivable if the ego is something more than a parcel of sensations closely bound together. Man satisfied in any way, is better than man dissatisfied and saddened, even though in his sadness there be something sublime; for utilitarianism has no right to establish any specific difference between man and the lowest animal. Stuart Mill feels so strongly that he has no moral criterion to mark the difference between various sorts of pleasure, that he bows to public opinion, and refers himself to the judgment of men generally to determine the scale of interests.[2] Bain, his disciple and his rival, has not hesitated to attribute to a sort of initiative given by the civil authority the semblance of moral obligation, which he seeks to maintain because he cannot dispute its usefulness. The internal government of the individual man he regards as a mere copy of the government of the State.

It is clear then that the English Associationist school has not been able to carry utilitarianism to a point at which it would assure the general peace by subordinating private interest to the interest of the greatest number. To this end something less uncertain than a calculation, less artificial than an association of ideas, is needed. The great Evolutionist school has attempted to solve the difficulty by connecting social utilitarianism with a development at once mental and physiological by which it becomes a positive necessity. In this attempt it had been

[1] "Utilitarianism," Stuart Mill, p. 14.

[2] *Ibid.*, chap. iii.

anticipated by French positivism, which was no less antagonistic to anything like *à priori* or moral intuition. According to Auguste Comte and Littré, the two great functions of our organism, nutrition and reproduction, produce two orders of feeling. The faculties of nutrition give rise to selfish instincts; those of reproduction to instincts which carry us out of ourselves, to benevolence, sympathy, what this school calls *altruism*. Littré added to these two orders of feeling the entirely abstract idea of equality among men, founded upon a sort of mathematical equation, without any moral bearing; this he attributed to the operation of the brain. We shall not dwell upon the special theory of positivism, because it has been largely extended and supplemented by evolutionism. Evolutionism is not satisfied with placing in juxtaposition the two orders of feeling arising from the instincts of nutrition and reproduction; it makes the latter proceed from the former by a process of evolution. Darwin tries to show that the social instinct develops itself in animals under the influence of the quest for pleasure. It is memory and reflexion which, in man, raise it into sociability. Herbert Spencer has largely expanded the moral doctrine of evolution in his book on the data of ethics.[1] We can but admire in the book the extraordinary argumentative power displayed, and the amplitude of positive information. Herbert Spencer connects ethics with the general principles of his system, which hinges entirely, as we have already shown, on the axiom of the conservation and transformation of energy. In the moral sphere we find this same mechanical energy developed in time and space, in accordance with the laws of universal existence, which require that the homogeneous shall always tend to the heterogeneous, and the heterogeneous to the definite, to individualisation. Each fresh stage of evolution is the result of a new struggle for existence, which has only left remaining the victorious elements, allowing these to adapt themselves to their environment, and

[1] "The Data of Ethics." Herbert Spencer.

to transmit by heredity all the advantages they have acquired Development is thus carried on in one ascending line, at once psychical and physiological. To the period of integration and progress succeeds the period of disaggregation, according to the eternal law of rhythm.

Let us see how these laws of existence or of motion are applied to morals by Herbert Spencer. Starting from the principles of pure mechanism, he sets aside from the outset everything like intuition or an innate principle. Morality, proceeding only from sensation, has but one object—pleasure or utility. According to the law, however, which impels the heterogeneous to assume various forms, morality does not remain in the state of vague sensation; it becomes complicated as it progresses; it assumes definite forms, and adapts itself more and more to the ever-increasing complexity of its environment, till, in human society, it arrives at that totality of multiple relations, which in their ultimate co-ordination give the general interest as the resultant of all private interests. Thus *altruism* is naturally evolved from selfishness. By means of hereditary transmission, it becomes a sort of necessary instinct, corresponding to the stage in the physiological development of the species which has been reached; but through all the successive transformations wrought by evolution, the root of this morality remains the same, namely, the search after pleasure —that is, selfishness.

In his book on the Data of Ethics, Herbert Spencer defines ethics to be the *science of conduct.* Conduct means nothing more than the adaptation of man to his environment, in conformity with the law which makes him pass from the homogeneous to the heterogeneous, and evolves ever fresh complications and co-ordinations. In this broad sense, there is conduct also in physical nature, since it only subsists and develops itself by means of this same plan of adaptation. Well-fitting boots are the very type of morality, according to a favourite figure of Herbert Spencer's. Morality and conduct

are all one. There is conduct in the animal world, nay in the organism itself. The organs, like the functions, have their morality, which consists in their finding their equilibrium. Under the influence of sentiments of pleasure or of pain, the human faculties tend, in their turn, to adapt themselves more and more to their larger and more complicated environment. To each phase of evolution there is a corresponding morality, that is to say, a particular line of conduct, which consists simply in adaptation to given conditions. In the phase of savage life, man's morality is of the same nature as that of the wolf, for violence is alone adapted to the then conditions of his existence. In a higher stage, morality, or the rule of conduct, changes with the changed conditions; the inextricable entanglement of interests in a civilised state of society, suggests the idea of solidarity or co-operation, and altruism is the only principle suited to this highest social state. The idea of good and evil changes from age to age, following, as it is bound to do, all the fluctuations of evolution. Thus, under the influence of accumulated experiences, bearing always upon that which can ensure the largest amount of pleasure and utility in every new phase of human history, the conscience of the race as it exists to-day, has been formed by hereditary transmission. This conscience, at least in its higher manifestations, urges us to altruism, that is, to the identification of our interests with those of other men. It follows that it is through a course of selfishness and utilitarianism that we arrive at the results sought in an opposite way by intuitive morality. We come, without any sense of moral obligation, to hold ourselves bound to altruism, by virtue of the instinct derived from heredity and the result of ages of experience. The Evolutionist school hopes to remove in this way the practical difficulties which proved insurmountable in Bentham's theory, and even in Stuart Mill's; and to supply the equivalent to that moral intuition, which had the advantage of giving us a proximate motive to the fulfilment of social duties, without

forcing us to have recourse either to a cold calculation incompetent to stem the tide of passion, or to an association of ideas whose slight and artificial bond of union could not bear reflexion

II. Refutation of the Morality of Self-interest.

We have arrived already at one refutation of the morality of self-interest, in tracing the succession of systems which have dealt with it. Bentham's utilitarianism takes the place of the *eudæmonism* of Epicurus, which confined itself to the individual, and did nothing for society; and hence failed to satisfy even the individual, who, as a social being, cannot find in isolation all the happiness he seeks. Bentham, in his turn, failed in his attempt to connect private with general interests, because he found no way to ensure the sacrifice of the former to the latter, since an elaborate calculation proves ill adapted to withstand the eager impulses of passion. Stuart Mill, in his theory of the association of ideas, endeavoured to create in the individual a sort of derived spontaneity, a second-hand conscience, which was to have the same influence as moral obligation; but he failed too, for he told his secret, as indeed he was compelled to do, since his system would be a *nullity* without it. Its whole gist lies in the *sous-entendu*, which, once known, nullifies this derived spontaneity. A spontaneity which knows itself to be derived, can render no further service. Herbert Spencer, in his physiological evolutionism, brings out clearly the inadequacy of the explanations previously advanced, but he leaves us nevertheless to the same principle, the morality of pleasure and of self-interest, as opposed to intuitive moral obligation. In refuting him, we shall refute also all who preceded him on the same track and who are at one with him on fundamental points.

Our primary objection is, that the explanation of the moral fact, given by utilitarianism in all its forms, is not an explanation. To explain, is to account for the fact, not to ignore or alter it. An explanation which begins by falsifying

facts, is itself false; it is not in harmony with true scientific methods, which are based upon experience and have no right to tamper with it. Fact is supreme in the domain of science. To modify under pretext of explaining it, is to substitute the philosopher's own idea for nature; it is to fall into the error which is so strongly denounced in the representatives of the opposite school, and to shape things according to a preconceived type. Now we maintain that this is what utilitarianism does with the fact of conscience, by which I mean the inward moral sense; it attempts really to dissolve it in its crucible. When we speak of the moral sense, we do not mean to reduce moral obligation to a manifestation of sensibility as fluctuating as that of sensation. Obligation proceeds from the reason itself; it is its application to the will.[1] This is why it is also called the practical reason; but it has no mere intellectual existence; it is animated by emotion. Let it be understood then that by the moral sense, we mean the practical reason animated by emotion.

It is not true that the moral sense, thus understood, can be confounded with the quest of pleasure or utility. Moral feeling consists in recognising our obligation in relation to a law which we call good, and which commands without constraining us. We feel at once two things: first, that we can and ought to obey this law, and second, that we are at once bound by it and capable of breaking it, wherein lies our responsibility. That this is a feeling in the human mind, needs no proof. There is no fact more certain, and more easily verified. Remorse and indignation are its universal and spontaneous manifestations; and they suffice to distinguish it from the most refined utilitarianism. It is impossible to confound the anguish of mind caused by a violation of the moral law, with the regret or sadness resulting from a misfortune or a failure. This is so true, that, in the midst of

[1] See on this point Francisque Bouillier's book, "La Vraie Conscience," chaps. xiv., xv.

success, remorse plunges its venomous dart even deeper into the soul than in the hour of discovery and disgrace. It is the "pitted speck" in the garnered fruit of prosperity. Only a very superficial psychology can identify the pain caused by loss of money or by wounded self-love, with the shame which overwhelms a man after a dastardly deed. Infamy makes itself felt in altogether a different way from sickness. Have we not seen a bright smile lighting up the face of one persecuted for righteousness' sake? It is with justice that Tertullian says, in speaking of tortures endured in a just cause, "*Est illecebra in illis*," there is a charm in them. The most ardent utilitarian knows that this is true; and in the secret of his heart, when he escapes for a time from the spirit of system, he experiences these deep joys and sorrows which attest our responsibility. Indignation, which is a sort of remorse that we feel for others, gives even stronger attestation to it. Why this importunate intrusion on the triumphs of successful crime? Why do not the moralists of pleasure hail those triumphs when the crime committed seems for a few days to have assured the material prosperity of a country, as has been the case with many a dictatorship that has sprung out of the ashes of anarchy? Why this indignant protest against usurpation, even avenging it by exile or imprisonment? Because there is something beyond success, even the most brilliant and seemingly serviceable. It must not be said that this indignant protest is actuated by the prevision of the ulterior consequences of injustice. This is not so; for when a great criminal succumbs, indignation moderates and pity asserts itself. Indignation reaches its highest point when the criminal is in the full tide of success. The counterpart of this indignation is the spontaneous admiration which virtue excites, even when it is carried to the length of sacrifice, of complete immolation. Whence come those generous tears which overflow our eyes when we see one man risking his life to save another? If he loses his own in the effort, our admiration

knows no bounds. Even those who do not believe that there is another life for him after he has sunk beneath the waters, cannot withstand this impulse. Heroism always and everywhere excites enthusiasm. It is the triumph of conscience; and yet, from a utilitarian point of view, it is sheer absurdity, sublime folly; for while *altruism* can explain the subordination of our own interest to that of the greatest number, it has no excuse for the folly of voluntary self-sacrifice, since the theory of sensation from which it is derived, does not admit that the soul can survive.

This feeling of obligation has found its highest expression in poetry, which for the moment I regard simply as the spontaneous testimony of the soul of man. Whenever it places an ideal before us, it is in an heroic form. This ideal of heroism is at first confounded with bravery, which dares all dangers for the sake of victory; then, as it becomes gradually purified, it rises to the height of devotion, self-sacrifice. In every literature nobility is pictured as disinterested. The drama is based on the idea of moral responsibility; it is only pathetic in the degree in which it describes the conflict between passion and duty. Take away this struggle, and nothing is left but a wearisome tale, a tissue of disconnected adventures. When the drama represents moral defeat, it is not as mere misfortune, but as an infraction of the law of good. Great poetry has expressed the sense of culpability with terrible force, from old Æschylus, who said that blood shed by a murderer freezes on the ground, that all the waters of ocean cannot cleanse the bloodstained hand; to Shakspeare, putting into the mouth of his Richard III., while the crown still seemed firm upon his head, that terrible imprecation of vengeance for all his crimes, the anguished cry of remorse such as never burst from lion or tiger gorged with the blood of innocent victims :—

> "O coward Conscience, how thou dost afflict me!
> The lights burn blue. It is now dead midnight.
> Cold fearful drops stand on my trembling flesh.

What do I fear? myself? there's none else by:
Richard loves Richard; that is, I am I.
Is there a murtherer here? No. Yes; I am:
Then fly,—What, from myself? Great reason: Why?
Lest I revenge. What? Myself upon myself?
Alack, I love myself. Wherefore? for any good
That I myself have done unto myself?
Oh, no; alas, I rather hate myself
For hateful deeds committed by myself.
I am a villain. Yet I lie, I am not.
Fool, of thyself speak well: Fool, do not flatter.
My conscience hath a thousand several tongues,
And every tongue brings in a several tale,
And every tale condemns me for a villain.
Perjury, perjury in the high'st degree;
Murther, stern murther, in the dir'st degree;
All several sins, all used in each degree,
Throng to the bar, crying all,—'Guilty! guilty!'[1]

Even to-day, in this advancing nineteenth century, while utilitarian evolutionism is reducing morality to pleasure and to utility, which is the pervading principle even of the *altruism* that makes the interest of the individual one with that of the community, poetry in its loftiest tones vindicates the majesty of the inward law of love and purity.

Social life is based entirely upon the idea of obligation. In every tribunal that sits to judge a criminal, the question of moral responsibility is raised, and the punishment is proportioned to the criminal intention. Hence the plea of insanity so often advanced to save a criminal. It is impossible, then, to regard punishment, as utilitarianism teaches, simply as a safeguard of society. The very purpose of the institution of the jury, is to take a true measure of the responsibility of the accused, by superadding to the judgment of the written law the direct testimony of the moral sense.

From all that has been said, it follows that the sense of moral obligation, with its corollary, the sense of responsibility, constitutes the moral fact, as it manifests itself in the human

[1] "King Richard III.," Act v., scene 3.

soul, and in the most unmistakable social phenomena. It follows that the utilitarian theories, which all agree in denying it, are contrary to fact. To deny is not to explain.

This result will appear yet more evident if, leaving generalities, we examine, one after another, the various elements composing the sense of moral obligation, and which are the very conditions of all morality worthy of the name and really effective. In order that there may be obligation, and consequently morality, there must be,—first, a law, an ideal, a notion of good, else obligation would be altogether indefinite; second, a law which refers not only to the results of our actions but to those actions themselves, and to their motives, else obligation would not make itself felt by the true ego, and would be fictitious; third, a law which, under pain of failure, places its highest sanction—the moral sanction—in the inner nature of the ego; fourth, a law which is really intuitive and antecedent to experience. Empiricism, which makes good consist in the proved results of our acts, destroys, by this very fact, the character of the categorical imperative, or of direct obligation in the human heart. We shall show that utilitarianism, which generally denies obligation without attempting to explain it, is fatal to each of these necessary conditions, and consequently fatal to morality itself.

We have said, first, that obligation implies the idea of a fixed law serving as a moral criterion, and defining that distinction between good and evil which subsists under all possible diversities in the mode of its application. Neither pleasure, nor utility, nor interest rightly understood, nor the harmony of the particular with the general interest, will give us the idea of law. As far as pleasure is concerned, this is obvious; nothing is more fugitive and uncertain, since it depends on sensation, and shares in its fluctuations. When the attempt is made to establish a hierarchy among pleasures, and to distinguish the higher from the lower, utilitarians are rising into a sphere which they have no right to enter. In order to decide that one

pleasure is more desirable than another, there must be a higher criterion than pleasure itself. The quality of pleasure must always be equivalent to the quantity, for there is no motive to seek in it anything else than the highest sum of satisfaction. The useful does not differ essentially from the agreeable. "In any case," as M. Renouvier says, "between one sort of usefulness and another, there is always a possible conflict, even in the same subject; the criterion which is to be the deciding test is not then contained in the idea of utility.[1] Will there not always be a conflict between immediate utility and utility in the long run? How can it be shown, from this limited point of view, that it is better to sacrifice the satisfaction of to-day, for the sake of some satisfaction in the distant future? Is not the future uncertain? Nor will it involve a less serious conflict to sacrifice personal interest to the interests of others; for such a motive is not so evident and certain as to put an end to all indecision. As utilitarianism has nothing to advance but utility, it can furnish no motive to make any given choice binding on us. It does not then contain its own rule, its own criterion. It is altogether opposed to the idea of law; thus utilitarianism leads us constantly into the dangerous casuistry that is perpetually sanctioning exceptions even to the halting and imperfect moral rule which it has tried to frame without getting above its own low region. Thus we find Stuart Mill, the most generous of utilitarians, falling back in the end upon public opinion. Nothing could more clearly show that utilitarianism makes shipwreck of everything resembling the idea of obligation, of law, or even of rule.

We said in the second place, that moral obligation, as it reveals itself spontaneously to us, has reference to our acts themselves, and not to their results. Its motto is, *Do what you ought, come what may.* We never reproach ourselves for a misfortune which is not our fault. Suffering in itself inspires us with no remorse, for the simple reason that we constantly find

[1] "Science de la Morale," Ch. Renouvier, vol. i., p. 177.

in the actual conditions of our experience, that outward happiness does not coincide with right and justice. It may even be said that the greatest suffering calls out the highest virtue. This the human conscience has always recognised; it knows that it is only responsible for that which lies within its power. Now it has the power to do right, but not to transform the world so as to banish suffering. We have the disposition of ourselves, not of things; we can do our duty, not direct events. It follows that our actions are good or bad in themselves, and not according to their happy or unhappy results. Now this is what utilitarianism cannot grant. In its view, it matters little what I do; all that matters is, to know whether I am securing my own interests and, by hypothesis, those of others also. The moral judgment is thus removed from the inner to the outer life, and is at variance with our inward sense of right.

The moral consciousness is not content with judging our actions apart from their results. It goes further and sits in judgment on the motive, the inspiration of the act; and by this it approves or condemns.[1] We know indeed that an act may be apparently good and really bad; that we may feign kindness and generosity, while we are really actuated by low and selfish motives, seeking only our own interests. Suppose a politician desirous to make his position secure, and therefore scattering his benefits far and wide. At heart he cares nothing for the sorrows he soothes, the causes he helps forward; he is only thinking of himself, he has no other view than to obtain credit out of which he may make his own name and fame. From the standpoint of moral obligation, he has not done a single good action. With all his munificence, he has only been seeking selfish gratification. But utilitarian morality is bound to commend him, it has nothing to do

[1] See M. Beausire's excellent article on "Evolutionist Morality," *Revue des Deux Mondes*, Dec. 15, 1880. See also M. Franck's paper on the same subject, read to the Académie des Sciences Morales.

with his motives; they are to it as though they had no existence. He has reconciled his own interest with that of the greatest number, and this is enough. It is needless to multiply illustrations. We do not know on what ground utilitarianism could blame hypocrisy, which, so long as it is not discovered, produces the same effect as virtue. It must only be thorough enough to succeed. Thus the inner sphere of morality, the only one in which it can be truly applied, does not come within the scope of utilitarianism at all. Utilitarians only make clean the outside of the cup and platter, like the Pharisees in Christ's day, who were the timeservers of morality, that is to say, the utilitarians of their age.

When once the motive of the act is left out of view, and the act itself only estimated by its result, morality has lost its inward sanction, which is the third condition of its existence. There is no place left indeed for self-approval or self-condemnation, since no act is in itself good or bad. The scaffold is the disgrace, not the crime. Punishment, which is the result of our clumsy mismanagement, is the one thing to be dreaded. Now "punishment is slow of foot," as says the poet, sometimes so slow that death comes before it; and as there is nothing beyond death, no place is left for any sanction. From the standpoint of obligation, it avails little that punishment lingers; its place is supplied, as soon as ever the wrong has been done, by the inward torture, the feeling of degradation. Stuart Mill will never succeed in identifying this feeling with the conviction, which he says has gradually become intuitive or instinctive, that society is instituted to protect its imperilled interests, and to prevent, by punishing them, the repetition of acts which compromise it. This statement does not carry us beyond the wholly external sphere of results, and does not touch the acts themselves and their motives. The remorse to which we have already referred as a primary proof of the fact of obligation, and which we are now looking at in its penal action, is the great avenger of the broken law.

The inward Nemesis is busy long before the outward penalties, direct or indirect, are inflicted. Seneca, the faithful echo of conscience, says: "The greatest punishment of sin, is having sinned. Let us recognise that evil actions are avenged by conscience. Nothing equals the torments which it causes, for its blows fall heavily and unceasingly."[1] "It is more cruel than the pains of hell," says Juvenal, "to have in one's breast a witness testifying against us day and night."[2] It is this witness whom utilitarianism tends to silence. Thank God, it never succeeds altogether; but it cannot be denied that the more it suborns the true witness, and puts in its stead a sophist who exonerates us, the more does it enervate the moral life and render it powerless.

We said in the fourth place, that obligation, just because it is obligation, manifests itself to us in our consciousness as preceding and governing experience. It would lose its character of law if it were regarded as the result of experience. If it is simply the sum total of a long list of experiences as to the utility of certain things in relation to ourselves, it has no right to command us; for none of these experiences amounts to a law, and the totality cannot differ from the units. From an accumulation of experiments in utility, we learn only what is useful, not what is our duty. It is undeniable that duty presents itself in an altogether different light. We are perfectly able to distinguish between duty and utility, for in our present condition, questions of utility and questions of duty constantly come before us, and we answer them in altogether different ways. We so little confound them that there is often a conflict

[1] "Prima et maxima peccantium pœna est peccasse . . . Hic consentiamus mala facinora conscientiâ flagellari et plurimum illi tormentorum esse eo quod perpetua illam sollicitudo urget ac verberat."—Sen., *Epistola* xcvii.

[2] "Pœna autem vehemens ac multo sævior illis
Quas . . . invenit aut Rhadamantus,
Nocte dieque suum gestare in pectore testem."
—Juvenal, Sat. XIII. 196-198.

between duty and expediency, and we have to decide every time which shall carry the day. It is inexact then to assert that duty is a transformation of utility, since the two coexist and may come into collision. Duty is something quite different from, and we venture to say altogether higher than, utility. Now, as we have already said more than once, evolution can produce nothing new. It brings out that which existed before, it has no power of its own to add to it. Either the new element has been added, or it existed before in a virtual state, and cannot be referred to evolution. This is true of duty, as of the appearance of life and the production of mind in the chain of existence. Now, the human ego is conscious of these two distinct things—utility and duty, and it cannot confound them without doing violence to the facts. We must observe, moreover, that actual experience is far from showing a uniform coincidence between the facts of obligation and of utility. To judge of things only by what passes before our eyes, we witness one long conflict between proximate interests and moral obligation, a conflict which frequently seems doubtful and in which the defeats are many. I know indeed that if we embrace in our view great periods of history, we shall find justice triumphant in the end; but even then only partially so, and at the cost of countless heavy sacrifices, for which there is no compensation upon earth. And we know all the time that the conflict, with all its vicissitudes, will begin again on the morrow. The present, from which we derive our most direct experiences, those which most deeply impress our inward sense, never perfectly harmonises utility with justice. Often in view of the insolent triumph of wrong and ill-deserved success, we experience a perplexity which makes even good men sometimes speak rashly in their haste, and fosters that poor sort of resignation, so much in vogue at present, to what is called the irony of fate and the hollowness of life. The morality of duty is not, then, the result of experience. If it was not intuitive, it would have no existence at all. The senses only give their

own philosophy, by which I mean pure materialism with its utilitarian morality.

Stuart Mill and Herbert Spencer attempt to supply the place of the categorical imperative by the influence of social environment, which establishes a harmony between our private interest and the general interest; but this social environment is itself a result of that harmony, it can only have arisen after that harmony was already manifested and co-ordinated. We are again in a vicious circle.

If we interrogate our inward moral sense as to the character of obligation, we shall find that it is a veritable command, an imperative; that it conveys the absolute conviction that there is such a thing as evil and such a thing as good. Doubtless ignorance and error influence our moral judgments and falsify their application; but there remains always the principle which distinguishes between good actions and bad, and the full persuasion that this distinctive principle does not depend on changes of environment or on times and circumstances. Now, nothing could be more directly opposed to the evolutionist idea of conduct, which represents it as nothing but a relation established between man and his environment, a mere adaptation, than this idea of the imperative resulting from the simple word, duty. The idea of adaptation can never be identified with that of obligation. The former gives us a sort of sliding scale; the latter, a rule, a law. According to Herbert Spencer, we can speak of the conduct of our organs and functions, of the conduct of a star, of a vegetable or an animal, because in all stages of existence there is adaptation of the existence to its environment. The conduct of man is subject to the same condition. If the morality of to-day consists in falling in with the admirable co-ordination of the particular interests of a society so complex as modern civilisation, we cannot forget that the morality of yesterday sanctioned violence and craft; and to-morrow the ever flexible line of conduct may have taken a new direction. There is, in this notion of

morality, a complete confounding of the variable applications of the moral principle which depend on the progress of intelligence, with the principle itself. It is possible to deduce wrong conclusions from it; but there never was a time when it did not present itself as an obligation rendering imperative that which men believed to be good and prohibiting that which seemed to them evil. If we went deep enough into things, we should find that even in the most barbarous ages duty was recognised as something different from pure selfishness, and that it implied a certain sort of justice and self-devotion.

However this may be, it is none the less true that the morality of adaptation or of mere outward conduct grossly offends the inward moral sense. This is so true that we find duty constantly requiring us to break with our social environment, rise above it, and run counter to it. The grandest passages in history have been sublime anticipations of truths afterwards to be fully revealed, and hence the pioneers of progress have often fallen victims. Neither Socrates nor Christ adapted himself to his social environment in opening up the way of moral progress; therefore the one drank the hemlock and the other was crucified.

That which is fatal, as it seems to us, to Herbert Spencer's whole theory as to conduct and the constant adaptation of existences to their environment, as applied to humanity, is the fact that humanity never maintains a fixed correspondence between its stage of evolution and its intellectual development. If evolutionism were true, if man developed psychologically in his moral and physical nature in accordance with the principle of the conservation and transformation of energy, every stage of evolution reached should be permanent, there should be no possibility of retrogression; for progress having been produced necessarily by the operation of the laws which govern the universal mechanism, and by virtue of which man's brain is modified coincidently with his mind (mind being after all only a function of the cerebral organ), we fail to conceive why a

generation, or a whole people, having attained a fresh stage of evolution, should not invariably remain there till it was prepared for a yet higher stage. The adaptation has been spontaneous, the human agents have been only its passive instruments. How comes it then that they are constantly retrograding, and that their conduct is so habitually at variance with their social environment? In our day, this social environment, in accordance with the law which resolves the homogeneous into the heterogeneous, and the heterogeneous into the complex and definite, is something immeasurably above self-asserting individualism. We are assured that we have arrived at the period of *altruism*, which subordinates the interests of each to the interests of all; and yet every day we see individual interest insolently asserting itself and imperilling the social community. Whence these falls, these retrogressions? How can we explain the sorrowful saying, so often verified by experience, "*Video meliora, deteriora sequor*"? Let it be observed that these falls are not the fault of a few individuals, that there are whole generations and nations which fall back under the dominion of sheer selfishness and violence. We recall the witty saying applied in the last century to the collective error of a great department of State, "One horse may stumble, we allow; but a whole stableful at once—!" Such repeatedly recurring alternations of advance and retrogression in the moral history of mankind, are surely a proof that conduct is not with man, as with the mineral, vegetable, or animal, a mere necessary and inevitable adaptation, but something in which his will comes into play. Determinism renders these fluctuations altogether inexplicable.

It is equally opposed to that education of the conduct which the English psychologists admit. They seem to hold it possible to influence the destiny of a man and of a nation by strengthening the action of certain motive forces, that is by the intelligent organisation of the social environment. We confess

that we do not understand how human intelligence can act upon this vast mechanism, of which it is merely one of the wheels. It may gradually come to work more smoothly by friction, after the manner of machinery, but it can have no power to change its nature in a world wholly subject to the inflexible laws of motion.[1]

III. Determinism and Free-will.

We are thus brought to the essential principle of utilitarian morality, which is determinism. If it is true, then the morality of obligation must succumb; we must give it up. It is time to deal directly with this negation of free-will, which is held to be the most indisputable result of science. We begin by roundly averring that even if it were true that science pointed to determinism as its conclusion, the well-established fact of conscience would still presuppose and imply free-will. Take away freedom of action, and you take away duty and responsibility; we can no more sit in judgment upon ourselves, there can be no remorse, no anything. Now, these things are great realities, great facts. What right have we to cancel them, and to affirm that the authority of experience is to be allowed in the physical, and denied in the moral world? For our own part, our choice is made, and we would rather join with Kant in reducing to the

[1] Beside the works already quoted, see "Le Devoir," by Jules Simon, "La Science et la Conscience," by Vacherot; and, on the other side, "La Physiologie des Passions," Letourneau. The objections of the extreme school of materialists to free-will, are there represented. M. Georges Renard's witty little work, "L'homme, est-il libre?" gives a sharp point to all these objections. "La Physiologie et la Volonté," by A. Herzen, attempts to give to determinism a psychological basis in harmony with the most absolute monism, which unhesitatingly evolves life and mind from the organic world and recognises only reflex action. All the science and talent of the author fail to render this evolution more comprehensible than the theories of mechanical transformism which we have already refuted.

phenomenal everything that is not consciousness, than abandon it. We are not obliged to believe in the existence of the world as science depicts it; on the other hand, we are placed under the authority of moral truth, the dominion of the categorical imperative, the most legitimate of all rule and authority.[1] Happily we are not driven to this extremity. For, first, determinism cannot be the result of an adequate induction, since we do not know the whole universe of things. Our observation only takes in a corner of the universe. Besides, as we have already remarked, we may admit the principle of the conservation of energy, and yet, by the distinction of quality and quantity, allow a share to human action in impressing certain qualifications on this abstract substance, which does not really live till it has received its form, for till then it is merely in a virtual state and admits of all possibilities. The muscles of a murderer expend the same quantity of motion and of heat as those of a hero, and yet the action produced is altogether different. If it is true, as Aristotle says, that the formal and final cause which raises an existence from the possible to the actual, by fashioning it and giving it its characteristic form, must be eternally actual and living, or everything would remain in a state of virtuality (for virtuality alone, without a primary motor, will never become reality), the primary motor cannot be identified with pure force, pure quantity; it is mind, thought; above all, it is will, and hence the ultimate and highest freedom. It is to this essential and primordial freedom that our own freedom points us, for the effect cannot be greater than the cause. Its cause is at once anterior and superior to it, and possesses in fulness that which it has partially communicated to the effect.

It follows, that the moral order, attested by conscience, is vindicated also by science, when science does not confine itself to abstract being, which is a nonentity, and only receives

[1] See "Le Principe de la Morale," Charles Secrétan, "Revue Philosophique," January, 1882.

a true and definite existence from the sovereign cause, that eternal energy without which nothing would have a beginning.

This world once formed, we are told, must be subjected to an absolute determinism, for this is the first condition of science, the condition without which any serious and trustworthy induction would be impossible. In fact, if the close-linked chain of causes and effects could be broken at one point, inference would no longer be possible, since we could never be sure of an unbroken succession of links. Without insisting again upon the moral certainty arising out of the categorical imperative, as primarily binding upon us, we reply that science ought to be broad enough to embrace different spheres of observation. It has no right to shut itself up within the sphere of sensible and mechanical facts, which, as we hold, is in itself inadequate, since life and sensation are not to be explained by pure mechanism. On what ground does it deny the sphere of moral facts in which liberty asserts itself? It seems to us, moreover, that nothing is less scientific than to reject intuition as a process of knowledge; for in order to enter on the scientific study of the world, we must start from the first principles which constitute the reason, or we shall never be able to arrive at a deduction or formulate a law. To accept the empirical alone, is to render experience impossible, at least that sort of experience which groups manifold phenomena under certain laws. Empiricism itself begins with intuitions. The famous principle of the conservation of energy is an axiom; it is less certain than others, and differs from them only in this. By what right, then, can we ignore in morality the intuition which makes us conscious of obligation and liberty as the first principle, the central axiom, by means of which knowledge is possible in this domain? We thus deny absolutely that there is any necessary conflict between science and conscience.

We shall not dwell long on the objections drawn from facts which are often urged against free-will, because we do not see

that any one of them destroys the elementary fact of conscience or implies that it has no existence. The feeling of obligation remains a direct certainty, and man and society act in accordance with it. Society would be at an end, if this feeling were banished for one day, one hour. The attempts made to get rid of it and to reduce it to mere necessity, fail without exception, since the resultant of all the combinations of fatalistic elements into which it is resolved, is the very same intuition of duty, the certainty of responsibility. The analysis, then, must have been badly made, and something must have been added which the parts did not contain, since the whole is in contradiction with the parts. And this is what has really been done, as we shall see. Determinism adduces, as opposed to liberty, the influence of desires and the action of motives upon our determinations. To speak first of desire. This has its source in the mobile and passive region of sensibility, where the reactions of the outer world are produced upon the soul. The most intense desire, we are told, is therefore that which most influences our determinations. As the wind of desire blows from the east or west, from the north or south, the human weathercock turns in the direction in which the wind impels it. It may indeed fancy that it directs itself, but it is a mistake; it does not act, it is acted upon. This psychology is false and superficial. If we see in the direction of human conduct simply the influence of desire, we do injustice to the soul. Desire has, no doubt, a very real influence as an impulse, but something more is needed for action; there must be an effort, a putting forth of the will. This effort may be in the direction of desire, but it may not. There is a constant conflict between will and desire, and the will never shows itself stronger than when it controls or resists desire. It cannot be said that in this case the conflict is only between two contending desires, and that the stronger wins the day; for in order to carry out the determinist theory, desire must always come from the outer world and appeal to our senses and sensibility.

To resist it in the name of duty and of the moral ideal, is to rise above the lower sphere of passivity. To follow desire, is to live an animal life. To choose between our desires, to control them, to prove by effort the reality of the will, is to act like men.[1] It follows that it is false that liberty resolves itself into desire. The same answer applies to the motives and motors of our conduct. It does not follow, because our decision is enlightened and takes account of the motives which incline it to a certain course, that the will is of fatal necessity determined by these motives. This is proved by the fact that the same motives, in identical cases, constantly determine the action in different ways. One day, their influence persuades us to make a reasonable decision, to prefer a higher interest to a lower gratification; another day, in the very same circumstances, higher motives have been outweighed and we have yielded to our lower nature. It follows that they are not of themselves sufficient to determine our action, and that it is the will which makes them effective one day and powerless the next.[2] Again, in order thoroughly to appreciate the motives of our actions, there must be a determination of the will; it must sincerely prefer the good impulse, and therefore impose silence on the evil passion which obscures even the moral sense. I also am a sophist, says the spirit of evil, the greatest of all sophists, and the father of all. Selfishness is the inventor of the false casuistry which is common to all schools, religious or secular, and which shows itself so fatally skilful in distorting the moral law and falsifying its application. Sometimes casting off all disguise, it speaks the gross

[1] See the discussion of this point in M. Janet's "Psychologie," chap. iii.

[2] MM. Renard and Herzen constantly identify the act done under the influence of motives with a purely necessary act, as if free-will were blind, as if the motive which determines it did not owe to it more than it gives, namely, its determining power, since the same motive may have different effects in the same circumstances as the result of our determinations. They admit no other liberty than conscious action. But the consciousness which I have of my act does not make it free, since I may be conscious of constraint.

language of appetite, and repeats the formula of every Epicurean school: "Let us eat and drink, for to-morrow we die." The pure light of morality is only seen by those who wish to see it, and whoever takes pleasure in evil wraps himself in clouds of wilful darkness. When once its legitimate part has been assigned to free-will, motives, so far from conflicting with it, aid it; for the more enlightened and intelligent a decision is, the more does it escape blind force.

Let us not forget, moreover, that liberty fully explained ceases to be liberty; it is essentially a mystery belonging to the ego. We may say of motives what Leibnitz says of the planets: *perturbing, not determining.* We are then justified in concluding with Aristotle, that a man is the father of his actions as he is of his children. This is confirmed by the conduct of all men and by the testimony of legislators. They punish and chastise those who commit guilty acts whenever those acts are not the result of constraint or of an ignorance of which the agent was not the cause. It is no less unreasonable to pretend that he who does wrong does not will to become wicked. We never reproach a person with a natural deformity, but we do blame those who have become thus deformed through want of proper care and exercise. Who would reproach a man born blind? But every one justly reproaches one who becomes blind through habits of drunkenness or any other vice.[1]

If in controversion of man's freedom we are reminded of the network of solidarity which is around us all, we reply that we have never asserted that the liberty of the individual was absolute, that it had no limitations, either in his own organism or in that larger organism which we call society. The question is, whether these limitations tend to the suppression of man's freedom, whether they do not leave him scope enough for the maintenance of the moral principle and of the sense of obligation. We admit that we are born with a certain physical

[1] "Ethics," Aristotle, Book III. 8.

temperament, certain intellectual and moral dispositions, which are the first lineaments of our character; that the social environment in which we grow up brings to us a contingent composed entirely of ideas and influences derived from the nation, from the family, and from religion. That which has to be proved is, that these various influences which are exerted upon us suffice to determine of necessity our ego, our moral life. This is what we think cannot be proved. For, in the first place, unless we deny the solidarity of mankind, which is equivalent to denying humanity altogether, we must admit that nothing is easier to understand than the influence of one kind of liberty upon another. Now, this social environment, into which we are introduced by birth, with its special characteristics of religious and intellectual development, has been formed in the past by powerful individualities, which have only modified it by rising above their age. The great difference between nations in which healthy political and religious revolutions have occurred, and those which have stuck fast in the rut of superannuated traditions, is due to the appearance of powerful pioneers who have prepared the way of progress by a supreme act of liberty. We may say then that the fatalism of to-day, in so far as it exists at all, is the freedom of yesterday. It is the same with our moral temperament; that which we have received is the product of a certain direction in the life of our forefathers. Our heritage of good or ill is due to free acts of theirs. So is it also with our physical constitution, the elements of which are in great part determined by the way in which our ancestors lived, and also by the greater or less skill in labour of the generations preceding theirs, by which the spot of earth which they inhabited was modified. As to the influences exerted upon us by our companions in life, these are only manifestations of their moral life. Lastly, if our particular acts are in accordance with those general tendencies of our individuality which we call our character, we must acknowledge that we have to a great

extent formed our character, little by little, by the direction we have given to our life. Our acts of to-day may seem to us more or less determined by our character; but this determining principle we ourselves have formed and strengthened. That which now seems nature to us, was once a matter of choice. None of the social influences brought to bear upon us amount to a constraint imposed on the will; they do not crush it in the revolution of their wheels. On the one hand, our inward moral sense directly charges us with the wrong done, and insists on our responsibility; no extenuating circumstances silence the verdict of conscience. On the other hand, moral regeneration, amendment, is an experimental fact, and it can only be possible if the character, the temperament, and environment do not constitute an irresistible fatality. It is an admitted fact, moreover, that great moral reforms overcome all antecedent influences, and break the iron bonds of custom. We do not mean to deny that solidarity bears part of the responsibility, so that the burden does not rest exclusively upon each individual. We are not only the parents of our own actions, but also of those of our fellows, and this to a degree which we cannot measure, for our influence outlives us. A solemn and salutary thought this, which, so far from lessening moral obligation, gives it a boundless sphere; for that which seems to exonerate us by laying the blame on our forefathers, at the same time charges us with having helped in our measure to swell the current of wrong, to diffuse through the atmosphere of our own day influences harmful to others. In any case, none of these objections touch the great fact of moral intuition, that categorical imperative which suffers no diminution by any of our defeats or partial apologies.[1]

[1] Renard and Herzen are altogether untrue to the logic of their system, when they assert that we can ameliorate our conduct by ameliorating the general conditions of existence, or by recognising the true laws of our organisation. They will never be able to explain how I can change anything to anything else, and still less how I can have in certain cases that consciousness that I am failing to fulfil my destiny which both admit.

The bond which links the present to the past," says M. Marion, in his book on solidarity, "undoubtedly restricts individual liberty so as to leave it little scope; but what does this signify? If only it is not stifled, if it still subsists, it can gradually enfranchise itself from determinism once recognised, and make it entirely subordinate to moral progress.[1]

The statistical objections raised against man's moral freedom, on the ground that we have year by year the same number of crimes, classed under the same heads, are not sustained by such an absolute uniformity of evidence as would argue the operation of an inevitable law. The larger the field of statistics, the more does individual liberty assert itself. We admit that, given the moral status of a generation as determined by the influence of preceding generations, that status would, on the principle of solidarity, produce, so long as it was not modified, similar and calculable effects. Again, indulgence in crime has the influence of lessening, and sometimes of destroying, freedom of action. M. Victor Egger, in his book, "La Parole Intérieure," says: "When we are told that the statistical method enables us to predict the number of murders, thefts, suicides, marriages, it simply means that they can be predicted approximately and in the mass; but in true qualitative knowledge, nothing is determined approximately and in the mass. It is, then, an illusion to think that, because mathematical processes are used, mathematical certainty is attained. Figures are instruments at once too rough and too feeble to penetrate far into the complicated and many-sided nature of these biological, moral, and sociological phenomena. With all its seeming precision, the

On the determinist system, I must be fulfilling my destiny by such failure, for the failure itself must be predetermined. How can Herzen say that the man is immoral who acts in opposition to his particular truth?

[1] "De la Solidarité Morale," Marion, p. 295. This book deserves a thoughtful study.

statistical method is superficial; it can only give us quantity, and in this case that is very little if obtained at the expense of quality."

The objections against freedom of action founded on heredity have been recently urged with great force in M. Ribot's book on the subject. Without pronouncing a decided opinion on the possibility of harmonising heredity with liberty, M. Ribot makes us on every page anticipate his conclusion, namely, that "heredity is one of the many inflexible links by which all-powerful nature keeps us bound by necessity."[1] He could arrive at no other conclusion, taking, as he does, Herbert Spencer's monistic transformism as his starting-point. Nevertheless, the full, luminous, and frankly impartial summary of psychological and physiological facts which he gives, does not at all lead us to the same conclusion. In the first place, M. Ribot owns that the law of heredity is liable to many exceptions; he argues that these only prove the rule, but they certainly prove that it is not of an absolute character. He frankly admits that the rule repeatedly breaks down in individual cases. After asserting that heredity is certainly a law determining the character of the species and of the race, he assigns to it only a relatively slight value in its application to individual character.[2] It follows, that the nearer we come to the moral personality, the less fixity the law of heredity has; which amounts to saying that the sphere of liberty broadens as individuality becomes more pronounced. All we ask is, that heredity should be admitted to be inadequate as an explanation of the definitive formation of individuality, so that liberty may remain possible. We know why this possibility is a reality to us. M. Ribot himself acknowledges that the hereditary transmission of intellectual faculties is in inverse ratio to their originality and power.

As to the share of determinism which results from heredity,

[1] "De l'Hérédité." Ribot. [2] *Ibid.*, p. 167.

and which makes our natural, historical, national, and family environment act powerfully upon our temperament, our predispositions, our life in every sense, we have already said to how large an extent we admit it. We do not think, any more than M. Ribot, that man comes into the world like a statue, created all out of one block and void of impressions. We admit that all past ages have contributed to form the individual. This is the very law of solidarity; but we must bear in mind two things: first, that this great past is itself, in large measure, the result of human freedom, which has done so much to create our historical environment; and next, that this solidarity does not prevent the play of individual freedom, without which history would be a monotonous deduction, and could not have those ever recurring new beginnings which help on progress. M. Marion's book on Solidarity is the necessary complement of M. Ribot's on Heredity.[1]

None of the objections which we have just examined avails to destroy the fact of conscience. An eminent French philosopher of the new generation who has cast off the traditions of eclecticism—M. Fouillée—admits moral intuition, but simply as an idea or ideal. In this sense, he says, it influences our conduct, without, however, possessing any objective reality. Determinism, we are told, is the law of things for reasons which M. Fouillée accepts without going into them or sustaining them by fresh arguments. He allows nevertheless that the idea of liberty exists, and it is enough that it be in us to act like leaven on our whole moral nature. We have thus a morality of persuasion substituted for the morality of obligation.[2] How is it the author does not see that this morality of persuasion will cease to persuade any one, the moment it is understood that the idea of freedom is an illusion, and that determinism alone is true from his point of view? Whoever

[1] "De l'Hérédité," Ribot, p. 272.

[2] See "La Liberté et le Déterminisme," "Revue des Deux Mondes," May 15, 1881.

lets out this fatal secret should be considered a public malefactor. Conscience has henceforth no more mortal adversary than science; and human society must succumb before this fatal contradiction. Will M. Fouillée tell us whence comes the idea of liberty in our mind, which has no corresponding reality? It appears suddenly in the midst of the inflexible chain of determinism, uncalled-for by any of its antecedents, which are all contrary to it. As inexplicable as liberty itself, breaking abruptly the chain of causes and effects, it presents the further anomaly of being based upon a pure negation. It is a shadow projected without any substance. For ourselves, it seems reasonable, on the ground of the principle of causation, to refer the idea of liberty—a living, and operating idea, as M. Fouillée himself allows—to a corresponding cause, which, since it cannot be found in purely natural determinism, must be sought higher. M. Fouillée objects that it is impossible to deduce liberty from our inward sense; first, because we cannot be instructed by it as to what is passing within us, and it would require universal knowledge to assure us that we do not form part of a whole, subject to the inflexible laws of determinism; and next, because we find our will to be limited, fettered, and this limitation takes away from it all reality. This twofold objection is by no means decisive. It matters little that I have not a consciousness of the universe; it is enough for me to have the intuition of my own inner life, in order to know that, as far as I myself am concerned, I am endowed with will, with freedom. I am only a thinking and willing reed in face of the vast universe; but its vastness does not prevent my thinking and willing, and consequently I learn enough of it from myself, to be convinced that at least in one sphere of the universe there is such a thing as liberty. If my conscience tells me that liberty exists in order that I may fulfil the law of my being, this is enough to make me hold fast that certainty. The attempt to identify liberty with almightiness is equally unsuccessful. I am free in the measure in

which I can carry out my will; but this does not imply that I can will or do everything. My conscience reveals to me that I can enter into relation with the absolute, but that I am not the absolute itself, that consequently my power is no more unlimited than I am myself. "I feel myself," as M. Secrétan well says, "at once free and dependent;" and this is why the feeling of obligation does not terminate in myself, but points me to one greater than I, to a sovereign will, without which the sense of obligation would lose itself in a mere abstraction. I am thus led to connect morals with metaphysics and with religion, and to maintain that it is idle to assert for morality an independence at once futile and chimerical.

IV. Independent Morality.

Independent morality, which a few years ago called forth much discussion, has, we admit, one aspect of truth. We acknowledge that moral certainty is far better founded than metaphysical certainty, and that the conscience affirms even when science doubts, on condition always, that reason has not sapped its true foundation by rejecting those first principles beyond which we cannot go; for there is an act of faith, an intuitive act, at the basis of reason itself. Scepticism, once introduced into this domain, passes at once into the domain of morals. We admit, however, that even when the principle of obligation has been theoretically destroyed, and confounded with the search after pleasure and utility, it may still act upon the life by its own virtue; human nature is constantly saved by its inconsistency. Nevertheless this contradiction between theory and practice is not without its dangers; and when it asserts itself, not among men of high and pure soul, but in the servile troop of imitators, it is sure in the end to have disastrous effects upon the social or individual life. There are not two ways of being an honest man, but there are various ways of apprehending and defining the idea of honesty. There are some who, when they

begin by theoretical misconceptions of truth, end by falsifying it in practice. Who will dare to affirm that Epicurus was as good a master as Plato in the art of living and dying well? However this may be, it cannot reasonably be admitted that in building up the theory of morality, the foundations are of small moment. It is possible, no doubt, to push to an absurd length the connexion between morals and metaphysics, and to maintain that morality cannot subsist without a full and detailed system of doctrine, forgetting that it is just because of such religious and metaphysical dogmatism that the clouds hang so heavily over the human mind. In regard to such problems it is only given it to "see as in a glass darkly," according to the expression of the most dogmatic of the apostles of primitive Christianity. But speaking broadly, there can be no doubt that our general conceptions, which are always coloured by metaphysics, directly influence our conception of morality, of the extent and nature of our obligations. Is it not evident, for example, that evolutionism, which admits only the principle of the conservation of energy, will lead to a conception of morality altogether different from that of the spiritualist? The morality of utility is joined to the philosophy of sensation, as a fruit to the tree that bears it. The morality of duty proceeds from belief in the world of mind and of the divine, as a consequence of its principle, though the sequence may elude the mere thinker. It is not possible to restrict this dependence of morality on the general conception of things to mere metaphysics, refusing to recognise the influence of religious thought. This, however, is what M. Fouillée attempts when, in a lucid discussion of the question, he shows that by the very fact that morality occupies itself with the purpose of man's life, with his capacity to realise it, and with the nature of the good which he seeks, ever subordinating the lower to the higher good, it is led into the sphere of metaphysics.[1] After acknowledging that morality cannot be independent of the solution

[1] "Revue des Deux Mondes," January 1, 1881.

given to these great problems, he divorces it completely from religion, which he regards as pure illusion, a projection outside of ourselves of the fundamental ideas of our consciousness. M. Fouillée will not deny, at any rate, that the rejection of religion has one immediate effect on morals, that it suppresses one entire class of duties, those towards God (whose existence is denied), and that it also changes the idea of the sanction of the moral law. Whether religion be accepted, then, or rejected, it cannot be an indifferent element in the conception of morality. History shows us how strongly the religious idea has acted on the development of the life of humanity, so that it can truly be said, as are the gods, so are the people.

To understand what the indissoluble bond is which connects morality with the general conception of the world, it is enough to look more closely into this very notion of obligation, which we have here taken to be the elementary fact of conscience. This obligation, this law, regarded in itself, may be considered as external to ourselves, imposed by an authority outside us. In order that it may be based upon the nature of things and may exhibit an absolute character, independent of circumstances, it is necessary that it be the very law of our being. It may be well summed up, then, in the old Stoical maxim:—Act in accordance with your nature. In other words: Be what you are; *i.e.*, what you ought to be. For man to realise his idea or his true nature, is to realise his ideal. Now, man is not an isolated being, he depends on a whole, and out of that whole on the great family, called humanity. M. Secrétan, says: "We give the experimental datum of morality when we say, 'I recognise myself as a free element of a whole; I am bound therefore to conduct myself as such, or, in other words, I am bound to seek the complete realisation, the truth, the good of the whole. I am bound to seek the realisation of my ideal, my truth, my proper good, in the realisation of the ideal and the truth of the whole."[1] Thus altruism is contained in the categorical impera-

[1] "Revue Philosophique," January, 1882.

tive, instead of reaching us by the tortuous way of utilitarian experiences which are always open to doubt.

The altruism of which we are now speaking has no analogy with the altruism of the transformist school, which springs directly out of its general principles. It is not true that it is identified by its practical results with the principle of justice and love, which is the glory of the morality of obligation. It cannot, after all, separate itself from the great law of selection, which evolves progress out of the survival of the fittest in the struggle for existence. This stern consequence was drawn from that law by Herbert Spencer, who does not hesitate to blame a too active charity, at least, under a collective form. With regard to worthless members of society he even goes so far as to show a certain antipathy to a too general diffusion of instruction. He says: "The agents who undertake to protect the incapable, taken as a body, do an unquestionable wrong; they hinder that process of natural elimination by which society is constantly purifying itself." [1]

Hæckel, with his extraordinary candour, maintains the same view: "The theory of descent," he says, "establishes that in human societies, as in societies of animals, neither the claims, duties, benefits, nor enjoyments of all the associated members ever will or can be equal." [2]

This, then, is what lies at the root of transformist altruism. Its morality is absolutely dependent on the philosophical principles of the school.

Let us now look at the true altruism. As we have said, there is in this All, of which we form part, something which touches us very closely, which is flesh of our flesh, bone of our bone—namely, humanity. We find in every son of man the same fact of conscience as in ourselves. All are bound by the same obligations, the same law of duty. Hence the greatness of the human personality in itself, the respect we owe it, the

[1] Introduction to "Social Science." Herbert Spencer.
[2] "Evidences of Evolution." Hæckel.

sacred obligation resting on us to fulfil its law without constraint, and so sedulously to guard its liberty. We thus fulfil the law of justice, which, assuming a positive character, rises above a purely negative conception, such as the simple reparation of wrongs. There is not merely juxtaposition among human beings, there is a close solidarity. They cannot do without one another; they are bound to aid and succour one another. To act as forming part of mankind, is to fulfil the law of brotherliness and charity, not merely of justice. Lastly, man has discovered in the depths of his being one greater than himself. Dim foreshadowings of such a presence have come to him through this wonderful world, in whose harmonious organisation "the invisible things of Him are clearly seen, being understood by the things that are made." As a part of the All, he himself depends upon the very principle of the All, or the intelligent free Cause, who is the absolute good, and who can never be anything less than this, when once the fact of the elementary conscience has been accepted; for if man has the conception of good, He from whom it comes can be nothing but good itself. For man to seek the truth, the good, the highest possibilities of the All, is then to connect it and to connect himself with its principle, he acting as its free agent, and fulfilling the purpose of his being in labouring for the universal good, commencing with the sphere that lies nearest to him—mankind.[1]

It would be easy, I think, to show that this analysis of moral obligation corresponds to its most diverse manifestations, even when these are obscured by gross superstitions. It will be seen that we go beyond the moral postulate of Kant, both in its original form and as modified by the French critical school. It has been said, not without reason, that that postulate is too formal, and not comprehensive enough. It could not be otherwise while the world of direct realities was reduced to pure phenomenalism. We know how far M. Renouvier's

[1] "Revue Philosophique," January, 1882.

school goes in this direction, since it does not even admit, as Kant does, the existence of the "*ding an sich*," the *noumenon* apart from its manifestations which are all that we perceive. From this standpoint morality is not simply the sublime postulate of practical reason, and as its *coup d'état* it must be restricted to the limited sphere of consciousness. Duty becomes necessarily abstract, and cannot go further than the only phenomenon of which we are certain, that is our own personality which we recognise in other men. We understand how the phenomenalism of M. Renouvier prevents his attaching any other idea than that of justice to moral obligation; for justice, as he understands it, does not go beyond the limits of the human phenomenon, since it is for ourselves we claim the respect of others, when we respect our neighbour. Here is reciprocity, not fraternity. M. Renouvier's idea is expressed in these words: "It is by generalising the person of the agent that we arrive at the general and universal rule of justice. We begin by seeking for ourselves the rule of our actions, and then we generalise the person of the agent."[1] This is, after all, only negative justice, for as soon as it goes beyond a frigid respect for the rights of others, as soon as it grasps what is implied in the law of solidarity among men, the duty of striving after their full reciprocal development, it becomes love. Justice is consummated in charity; so long as it remains below this standard it is not complete justice.[2]

Phenomenalism, which does not admit the reality of the object as apart from the subject, cannot get beyond its subjective monad, at least, metaphysically speaking. It corrects itself by its generous postulates; but adhering strictly to its philosophical principle, it cannot get beyond the ego, and its morality amounts to nothing more than the generalisation of the individual. There can be no room for the idea of fra-

[1] "Science de la Morale," Renouvier, vol. i., p. 139.

[2] "Article sur le Néo-criticisme et la Morale de Kant."—"Revue Philosophique," 1881. See M. Secrétan's article already cited in the same review.

ternity in that of obligation, unless we admit the reality of the All, of which mankind forms part, and the good of which man is bound to seek. Charity can have no solid foundation, unless I admit the objective reality of that which is outside myself, the reality of the All, which implies that of humanity; then morality ceases to be formal, it is positive as the world, real as God.

We have endeavoured, in another part of this book, to show how we can conceive the objectivity of the world without repudiating the generous reaction of criticism against metaphysical fatalism, by making freedom of action the axis, and, so to speak, the principle of the universe. We know, indeed, that criticism multiplies postulates, which are in truth only acts of the will, that it may not leave morality without any solid foundation. By these postulates, which go so far as to predicate God and immortality, criticism leads us, as M. Fouillée says, to the very threshold of the sanctuary. We believe that it is possible, not only to draw near, but to enter the sanctuary, while still remaining faithful to the principle of certainty. This free and acting cause, which the simplest exercise of our will shows us at work, not only within but outside of us, we have transferred to the absolute, by anthropomorphism—the natural consequence of the principle of causation, which does not allow that man can be greater than his Author. Nor can he be better; thus his idea of good, as it results from moral obligation—his idea of good freely chosen and realised in the exercise of justice and of kindness—can only come from the absolute in whom it finds its supreme type. This absolute, moreover, is the very principle and perpetual source of life for the All of which we form a part, and in particular for humanity, whose members we are. Therefore our duties towards Him are one with our duties to mankind. He Himself has joined in one and the same command, the love we owe to Him and to our brethren. We love Him only as we love them. This is the fundamental principle of all religion, that is not

mere mercenary devotion. Thus the moral and the religious idea are closely interwoven in the consciousness. This union will be yet more evident as we look at it in the light of moral sanctions.

V. Moral Sanctions.

The moral sense, by which we always mean the fundamental intuition of conscience, not only makes us hear the categorical imperative; it not only inflicts upon us the intolerable anguish of remorse after wrong done, but it fills us with a foreboding of punishment. We do not believe only in the moral law, but in its sanctions. If there is one feeling more universal than another, it is the recognition of a retributive justice which annexes pain to wrong and happiness to well-doing. Here the utilitarians meet us with their assertion that all our morality of obligation falls in at last with their theories, and that duty leads to profit. We have found a better bank, whose exchanges appear all the more safe for being far, and in which we can secure a large interest for our investments, since we are to receive eternal happiness in exchange for privations brief as life itself. This is the last utilitarian objection with which we shall deal.

We reply, in the first place, that it is not exact to affirm that because the world is so organised as not to sanction evil, duty and interest are one and the same. The motives of our actions are utterly different, according as we act from a sense of duty or from self-interest. In the first case, we obey a law which we feel incumbent upon us. In the second, we calculate, we think only of consequences. This is so true, that whenever the consideration of the immediate result is foremost in our mind, we unhesitatingly set aside obligation. Thus there is an essential difference in the two motives. In the second place, the sanction of the moral law is not pleasure in the largest possible sum; it is happiness. Now happiness, in its highest acceptation, is the true fulfil-

ment of our destiny, the realisation ot our ideal, perfection, in a word, holiness; for every selfish joy has a blight upon it, a worm in the bud. There is no true happiness except when the ego is raised above itself in generous self-forgetfulness. This is true of all the pleasures of art and science, and of the affections themselves, which are troubled and precarious so long as they are confined to the restless sphere of passion, always selfish at heart. "To live for humanity which lives in God," says M. Charles Secrétan, "to live in God Himself and by Him, to enter into His will and feel His influence through prayer, the medium between the world and God, this is happiness."[1] The best reward of duty done, is its perfect fulfilment, which becomes second nature to us; the recompense of love, is to love perfectly. Thus we become free indeed; for liberty begins of necessity with a period of hesitation, but it is not destined to remain in a state of perpetual indecision. In its higher and more perfect development, it becomes the free acceptance of the true law of our being, which is conformity to the Divine ideal of good.

Good never terminates in the individual; in its highest realisation it is social and broadly human. There is no happiness in selfish isolation, for nothing is more contrary to the law of our nature as sons of humanity. True happiness is the community of good; and its first condition is the active self-devotion which strives to realise it. If good is done from any other motive, it is only mercenary, not true benevolence. The Mahometan who dreams of houris and everlasting feasts in the future life, is only a gross utilitarian; the man who, calling himself a Christian, has no other motive in eschewing evil than to avoid hell-fire, is no better. The fear of pain is only the counterpart of the search after pleasure. Epicureanism lurks under the robe of the Pharisee, as under the sackcloth of the fakir; it is the secret of all the selfish pietism which

[1] "Discours Laïques," Charles Secrétan, p. 269.

seeks to purchase heaven, and thinks of the pleasures of heaven as something distinct from holiness. We must admit then, unless we deny all moral purpose in the world, that it has been so organised as not to show itself favourable in the end to evil, which violates its first and highest law. Good ought to lead to complete happiness, not only for the satisfaction of the human heart, but also for the restoration of the harmony between the inward and outward conditions of existence. We say with Proudhon that God is evil, if evil is the end of all things. It would not triumph in the end if it had not prevailed in the beginning. But to say that God is evil, is to say that God does not exist; that universal life has no intelligent and free cause, and that life is but a chaos in which order comes by chance. We have already sufficiently disproved such an assertion. If God exists, if He has pursued a plan in the organisation of the world, if moral forces are *par excellence* the ends of life, good ought to lead, I do not say to pleasure, but to the happiness inseparable from the perfect fulfilment of the law. Moral obligation, then, is the end as it is the beginning of the development of the higher life. Only the distance may be long between the starting-point and the goal. Under the actual conditions of existence, there is an ever-recurring conflict between duty and interest. The path of duty is a path of tears, of blood, of betrayal, defeat, self-sacrifice. Evil is constantly celebrating its insolent triumphs; and, as the Scripture says, the righteous perish and no man regards it. Glory often casts a false halo around sinful pleasures. It cannot be otherwise in a world where evil abounds. Doubtless when we go back in thought through the centuries, we see that even on this side the grave, great moral defections bring their punishment, at least in society at large. Yet the retribution is never complete. Thus Kant was the interpreter of conscience when he made the future life a postulate without which the moral law would lack adequate sanction. "It would be madness," says M. Janet, "to suppose that man was con-

strained by the moral law to regard justice, and yet that there was no justice towards himself.

Happiness, then, in the exalted sense in which we understand it, is the restoration of moral order; punishment itself is never a mere penalty, but always tends to the amendment of the guilty, for only on this condition is it moral at all. To suppose that there is a phase in the life to come, in which punishment will be only pain, even to the most perverse of men, is to libel God. Thus punishment itself pursues a moral end, the true restoration of order, which is the triumph of good.

This is an old morality, we confess. Hence it is regarded with great contempt by the pessimists of our day, who can hardly claim more originality for their own system, which is but a revival of old Buddhism. They say they are the only philosophers who really set aside utilitarianism, and lay the true foundations of disinterested morality. We must, in concluding, briefly examine this assertion. We have already explained the metaphysics of the pessimist school. Schopenhauer, carrying Kant's criticism to its furthest issues, affirms that the principle of things is not to be reached by the intellect, which is limited by its absolute subjectivity, but only by the consciousness.[1] Consciousness perceives simply an impersonal will, without any contact with the intellect. We can but ask what it is supposed to will, since it can make no choice between possibilities of which it knows nothing; and this transcendental will confines itself to merely willing to live. This vague, mysterious will is the source of all our sorrows. There has been no other act of freedom but this act which does not belong to time. As far as we are concerned, we owe our origin to it, but do not repeat it in any degree, for our character is absolutely predetermined. Determinism governs us and constrains us in all we do. *Velle non discitur.*

[1] See M. Fouillée's discussion of the morality of Schophenhauer and Hartmann, "Revue des Deux Mondes," March, 1881.

We never learn to will, since the will is always distinct from the intellect and antecedent to it. This is enough to show that the supposed metaphysical basis given to morality by Schophenhauer, is inadequate to sustain it, and that the first principles of his system render it impossible. Hartmann gives it no more solid foundation. He regards the world as one act of unconscious madness, the will having made the world without the knowledge of unconscious reason, and having thus inaugurated the torture of that senseless god to whom existence is a distress. Thus the essential will, the will which is before time, is blind, without a glimmering of reason, even of unconscious reason. It is only in the actual conditions of existence that it is united to consciousness, which arose out of a pure accident of the physiological development of the brain. The will, thus become conscious, is bound to recognise the incurable misery and folly of existence and to try to put an end to it. In this consists its moral obligation. But we must not forget that the whole of this sphere of conscious life belongs to a transitory and purely phenomenal world, which is only a rapid lightning shaft in the eternal night; an ephemeral appearance on the ocean of the great unconscious All. In short, duty ought to bring about a state of things in which all duty will cease.

If we now ask, wherein consists this duty so ill-sustained by Schopenhauer and Hartmann, we shall see that the character of disinterestedness claimed for it is altogether a delusion. Schopenhauer reduces all morality to pity, since life itself is a misfortune. But this pity is only a false semblance, for since all distinction among existences is obliterated, there is no more real duality in the world. "To take pity on my brother," he says, "is to take pity on myself, for he is I, and I am he, in absolute identity; we may say of every object perceived by the ego, as the old Indian proverb says: *Thou art that.*" Morality then terminates in myself, and I do not see why well-regulated pity should not begin and end in my own person.

It follows that this so-called disinterested morality is nothing but a colossal egoism. Hartmann comes more directly to the point: Existence being itself the one great evil, our aim should be to put an end to it. He says: "Man ought to become the great high-priest of pessimism. Real existence is at once the incarnation and the passion of the Godhead made flesh, and at the same time the way that leads to the liberation of the crucified. Morality consists in trying to shorten suffering; the ideal to be arrived at amounts simply to this, that man should concentrate in himself the sum of energy necessary for the vast suicide."

From the standpoint of this absolute pessimism, the pity recommended by Schopenhauer is an inconsistency, especially if it tends to practical charity; for in rendering life bearable, by ameliorating its economic conditions, it diminishes the sum of wretchedness and retards the great day of universal deliverance. Hence the social morality of Hartmann is the hardest, the most pitiless possible. He recognises only one sort of progress, that which helps to unify humanity so as to hasten on the final suicide. Nevertheless there are still some privileged individuals. These are not required to sacrifice themselves for humanity. It is their part to labour for the unification of the race, for the suicide is not to be fragmentary. They therefore marry, carry on commerce, make the best possible figure in the world, while awaiting the end of the comedy when the night of the Unconscious will enwrap in its folds all that has lived, and hush it in eternal silence. There is no guarantee, however, that the one All may not be taken with a fresh access of madness, and may not again commit one of those follies called a world. In any case, this great Unconscious, whose puppets we are, fills the whole volume of history. He only pursues in us a purely selfish end, since his happiness is in ceasing to be, and this absolute disinterestedness is nothing but boundless egoism. M. Fouillée has well said, that pessimism is nothing but Epicureanism reversed, and its ultimate

term is the quest of pleasure. While awaiting the final destruction, we may scatter a few flowers along the gloomy path which is so soon to end in the abyss. Pessimism thus makes common cause with utilitarianism. On the other hand utilitarianism agrees with pessimism in pronouncing on the soul the doom of annihilation. We have seen Herbert Spencer placing all human and social life under the great law of rhythm, which demands a period of disintegration after that of aggregation. Our world is to end in universal destruction, out of which will arise new combinations of energy. Thus the morality of utility also ends in annihilation, so revealing the insurmountable contradiction in its terms. Utilitarianism, which denies the moral law, denies also any free and intelligent Cause. Everything begins and ends in chaos. Having sought nothing but utility, it loses it, and thus justifies the words of the gospel: "He that will save his life shall lose it, and he that loses his life shall find it."

On the other hand, the morality of obligation leads us up to the very principle of obligation, which is the absolute good. Absolute good is also supreme wisdom and sovereign power. It knows how to order things so that they shall tend to endless progress, not to destruction. This is why duty is no vain thing, it is accompanied with power, it joins itself to omnipotence, and it adds each day some unperishing stone to the indestructible building which rises ever grander and higher. Only on such conditions does morality cease to be a mockery, mere child's play. We can understand the sacrifice of the individual interest to the interests of humanity, if humanity is a reality; but if humanity, society, the moral and physical life, are all destined to vanish away, like a shadow which has just darkened the sullen surface of immensity, what object is answered by such self-sacrifice? Altruism is deprived of all motive. But even apart from the fatal issue thus predicted, self-sacrifice loses all moral value when we once come to regard it as the result of pure determinism.

In conclusion, we say that, apart from the morality of obligation, there is no such thing as morality at all. There remains no law to command our life, no standard or test of right, for pleasure is only to be estimated by its quantity, since quality belongs to a higher order of things. There is no longer an inward judge to stamp the action in itself, and not merely in its results.

Responsibility is involved in the same shipwreck as free-will. All sanction has disappeared from this world and from the other. Existence is a tragi-comedy, or rather a comic tragedy; for it passes from the agreeable and the useful to universal annihilation, a prospect which holds out no moral stimulus, and which may induce the vulgar to turn the comedy into a carnival. Utilitarian morality is essentially immoral; it cannot fail to have a demoralising effect upon society when once its false principles have permeated the atmosphere in which we live. In opposition to all these sophisms we shall never cease to plead the moral intuition, the fact of the primitive conscience, that faith in duty which is itself the first of all duties; and we plead for it as a free act of the will. We say unreservedly that we have no right to question this obligation; we are bound to submit to it. We avow this determination, which is the most important step in the moral and intellectual life. "There is no hypothesis, however ingenious, "says M. Vacherot," which does not fall before such a fact of the consciousness as that of our freedom of action." [1] We do not separate this fact from its principle. It is not simply the voice of our inner life, a higher instinct, for it constantly demands of us that which we would not choose; and it does so with an authority which we cannot dispute; for it reveals to us an ideal to which we have not attained. It comes then from above, from God Himself. We cannot divorce the sense of duty from the sense of the divine within us. We are thus led to look more closely into the relation between morality and religion and to ask if they have not both the same origin.

[1] "La Science et la Conscience," Vacherot, p. 4.

CHAPTER II.

THE IDEAL.—ART.

From a psychological point of view, man is a thinking, willing, feeling being. Feeling is that attraction which urges us to seek the good, whatever it is, which is in harmony with our nature. To thought it assumes the form of truth; the will makes the effort necessary to attain to truth; feeling stimulates us to pursue it, kindles the desire, and makes it a motive power. Doubtless the chief element in feeling is always affection; we love that which we desire. Repulsion, which is the counterpart of love, is only the converse of affection, and belongs to the same psychological category. Feeling blends with all our higher life. It leads us not to be content with verifying phenomena as they present themselves to us, but to desire to know more of them; it fills us with a real thirst for knowledge. Feeling stimulates without overpowering the will; it receives from it, however, even more than it gives, for it is the will which exalts and ennobles feeling, and confers on it a moral character. Only in this way do our affections rise to true love, self-possessed and self-surrendering; an emotion perfectly distinct from the sexual instinct, which it controls and purifies without suppressing.

Feeling is in one sense inferior to reason and will, since, in itself, it is confused, indistinct, and more allied to the instinctive life; but in another sense it transcends it. It contains in a latent state the deepest intuitions of our being, its grandest aspirations. It is for reason to draw them out, for

the will to give them progressive realisation; but it is feeling which holds within it all these mighty and mysterious possibilities.

I. The Sense of the Ideal.

The noblest of our aspirations is that which tends to the ideal, to that which lies beyond present realities and present enjoyments, beyond all that earth gives or can give. This last trait completes the broad distinction between man and the animal. This aspiration after the ideal must not be confounded with that intuition of the infinite to which reason rises, nor with that notion of perfection which is the essence of moral obligation. It is no doubt closely allied with these, but still it is distinct from them. We could, in fact, conceive of man contenting himself with these high ideas of perfection and of the infinite, without aspiring to rise above his present condition. He might contemplate these sublimities like glorious stars shedding their pure radiance upon him from the skies, while he himself pursued his way through the world without any intense yearning after the ideal, any constant reaching after the things beyond. This does not imply that he would be satisfied with his destiny; it would be pain to him not to know all, and he would be conscious of remorse after wrong done; but he would console himself by faith in a gradual progress in knowledge and in the practice of good, and he would not feel that strange home-sickness which now never ceases to torment him. The aspiration after the ideal is not simply the desire to add to the sum of knowledge and of good, it is the profound and bitter consciousness that we shall never quench upon earth our thirst after happiness, truth, and purity. There is no feeling more universal, more indestructible, more truly human.

It manifests itself in every sphere of existence, even in the lowest—the sphere of mere enjoyment. When the animal is

satiated, when all its appetites have been appeased, it feels a perfect satisfaction, till the goad of appetite makes it restless again. Man, on the contrary, is ever restless and craving for more, even in this low sphere of pleasure. We are not referring simply to the delirium of excess with its feverish reactions. The fever of dissipation, which hurries so many into the vortex of gaiety, arises from man's desire to forget the realities of life, which seem to him so sad and unsatisfactory, and to find in pleasure that which it has not to give.

The same dissatisfaction is felt even in the purest earthly joys. "*Cor humanum inquictum est, donec requiescat in Deo,*" said one who had drunk deep from the enchanted cup of earthly pleasure before his soul was possessed by the love of God, the only love truly worthy of man.

This infinite aspiration is a perpetual stimulus to thought; it forbids man to rest in any system, in any philosophical conception. Sometimes he seems to have reached so grand a height, that he exclaims: It is good to be here; let us here pitch our tent! But even as he speaks, other summits, vast and shadowy, rise in the distance, and the mysterious voice cries, "Onward and upward," and he climbs again. Sometimes the mind droops languid and dispirited. It says to itself: "I will go no further, seek no more, I will pillow my head upon my doubts, and rest." In vain. Doubt, as Verny said, is the amusement of frivolous minds, but it is the unutterable sorrow of deeper souls. Humanity, sooner than slumber on in doubt, ventures on the most daring affirmations or sweeping negations; it tries to kill thought itself, to prove to it that it has no existence, or, which amounts to the same thing, that it is nothing more than the vapour of a heated brain, like the mist which the sun draws up from the marshy plain; but in the very effort which thought thus makes to destroy and to deny itself, it thrills with intenser life. The panting pilgrim resumes his way. Neither the narcotic poured into the curious and dainty chalice of poetic doubt nor the ignoble

allurements and delusive consolations of the modern Circe—the sophistical enchantress, whose every art is expended to identify man with the brute—can avail to heal his wounds. The mind of man groans and yearns for higher consolation. The dim twilight does not satisfy him; he wants the broad daylight, the full sunshine of truth, and till he finds this he is restless and perturbed. This agitation of mind is undoubtedly a hindrance in the search after the partial truth that we might attain, for it interferes with the calm and patient study which truth demands. As Malebranche says in his "Recherche de la Vérité," "Our will, ever urged on by an eager thirst, ever agitated with a restless desire for the good it does not possess, cannot, without a strong effort, allow the mind to dwell for any length of time on abstract truths which do not touch it at all, and which seem incapable of rendering it happy. Thus it is incessantly urging the mind in other directions; and when, in the agitation thus caused by the will, the mind comes across some object which seems to it good,—I mean which makes the soul conscious of some sweetness, some inward satisfaction on its approach,—then this thirst of the heart is excited afresh. These desires and yearnings reassert themselves; and the mind, forced to yield to them, turns exclusively to the object which causes or seems to cause them, that it may thus bring it near to the soul which longs for it and for a time seems satisfied with it. But the emptiness of the creature can never fill the infinite capacity of the heart of man. These finite delights, so far from quenching his thirst, only stimulate it, and fill the soul with the vain and foolish hope of finding satisfaction in the multiplicity of earthly pleasures, the effect of which is a pitiable inconsistency and levity of mind. It is true that when the mind comes by chance in contact with some object not bounded by the finite, or which has in it something inherently grand, its agitation and unrest cease for a time. For recognising in such an object that for which the soul is longing, it clings to and dwells upon it; or

rather, the resolute bent of the mind to investigate things infinite and too high for it, proves as unsatisfactory as the levity with which it treats those within its capacity. It is too weak to carry through so difficult an enterprise, and the attempt to succeed in it proves vain. That which can make the soul happy, is not, so to speak, the comprehension of an infinite object, but the love and enjoyment of infinite good." [1]

Malebranche clearly does not separate the love of truth from the struggle after moral perfection. He is right; for truth without the realisation of good is no longer truth. Thus the same painful yearning of which we have spoken in the sphere of the affections and in that of thought, becomes even more intense in the moral domain, properly so called. Here pre-eminently does the ideal seem hopelessly unattainable, and the greatness of man's moral nature is measured by the depths of his despair. It is only low and narrow souls which are satisfied with the petty. Wherever there is a noble heart it is a bruised and broken heart, mourning its weakness, longing to be better, striving with strong endeavour to reach the ever-receding heights of perfection. This moral perfection, like happiness, love, truth, can be found alone in the Infinite, that is, in God. In Him all the aspirations of humanity centre; it is His name they breathe, thus showing that man is only complete in God, and that there is something of God in his own nature.

II. The Sense of the Beautiful.—Art, Its Threefold Purpose.

There is one sphere in which the sense of the ideal finds its fullest expression—the sphere of art. We shall not attempt an æsthetic treatise, however short, for this would require a subtler analysis and more extended discussion than we can give. We shall only touch on art and on the sense of the beautiful as a

[1] "De la Recherche de la Vérité," Malebranche, Part I., ch. iv.

necessary element in any true description of man's psychical characteristics.

Art is the realisation of the beautiful in an appropriate form; or, to speak more correctly, it is the attempt to give as adequate an image or representation of it as possible. We must then first define the idea of the beautiful, though such definition must always be incomplete, since the beautiful in its essence is rather to be felt than described. We can never compress into a formula the strange rapture, the exquisite enjoyment, which the beautiful awakens within us.

The beautiful is not separable from the good and the true, for the psychological unity of man is never really broken. Life is a spontaneous synthesis, a unification. The good and true is the beautiful, and beauty devoid these qualities is beauty of a low order. The beautiful, from the fact that it appeals to the senses, is always accompanied by feeling, but must not be identified with it. In order to understand wherein it consists, we must isolate it by an act of abstraction which is a necessity of thought, while at the same time we recognise that this abstraction is always a fiction in our psychical life, which does not itself either isolate or abstract, but blends in one that which reason alone distinguishes and separates.

Let us look at the beautiful in its simplest, most direct manifestation. We experience the sense of beauty when the plastic force which is at the basis of all existence manifests itself freely and easily, exhibiting unity, co-ordination, order, harmony of operation.[1] The expansion of the vital energy and its harmonious co-ordination is beauty. This harmonious co-ordination is so distinctly its main characteristic that it suffices to produce an æsthetic impression even in the inorganic world. Thus understood, the beautiful is undoubtedly closely connected with the design which has produced order in the cosmos. It must not, however, be confounded with this, for the mere

[1] See M. Lévêque's admirable analysis: "La Science du Beau dans son Principe et ses Applications et son Histoire."

adaptation of organs to their functions would not of itself produce the beautiful. There could be no beauty without this adaptation; but something more is wanted. There must be, first of all, that free and facile play of life which is not found in all, even of the most simply organised beings; and beyond this there must be a manifest harmony appreciable by the eye without the exercise of the reasoning faculties. The beautiful is not merely a matter of feeling; it is not purely subjective; its elements are in the things themselves. What is this harmony, this co-ordination, but the governing, organising idea in its highest expression; in a word, the form which, as Aristotle teaches, limits, shapes, determines, and harmonises matter, sealing it with the impress of a ruling thought? Wherever this impress is clear, we have beauty—beauty in the thing, objective beauty, so to speak. We may add, that this beauty consists not only in certain particular forms, but in the combination of forms; and these not constituting discrete series or separate harmonies, but grouping themselves into one great harmony. We are thus carried back to the parent idea of all these particular harmonies, which brought forth real, determinate beings of various forms from inert matter in which slumbered all possibilities and virtualities. This parent idea cannot be itself a mere potentiality, for the real is never produced by the potential alone. The parent idea is then the highest of all realities, the thought of thought, thought eternally living and actual; in a word, God. Thus the idea of the beautiful, associated with the idea of form, points, like reason and consciousness, to the Absolute. At this elevation the true and the beautiful blend, as mountain slopes all converge to the summit.

Beauty then is in things; but before we can discern it, we must have the sense of the beautiful; we must have intelligence, for in order to apprehend the grandeur and the harmony of nature, the idea of them must be already present in the mind. They are not perceived by sensation merely; for this

only grasps the phenomenal. The animal is conscious of enjoyment or suffering through these phenomena, but it does not admire them; the harmony which co-ordinates them it does not perceive. Hence in order to recognise the beautiful we must possess the idea, the intuition of harmony, of a governing, organising idea manifesting itself in form and in the grouping and co-ordination of forms. Man alone is capable of this, because he knows himself; and, being in himself the epitome of nature, the true microcosm, he recognises in himself the governing idea which presides over the disposition of the world, the source of all its various forms. With man this idea exists primarily in the pure state, if we may so speak, in his reason and consciousness; and it is afterwards expressed in his organism which the idea has fashioned by the physical form which translates it. He discerns the beautiful first of all in himself under its most perfect conditions. After thus apprehending it in its essence and in its primary manifestation, he seeks and finds it in things. This explains why he always has an inclination to get close to nature, to recognise his own reflexion in nature, and to place it in relation with himself. Anthropomorphism, which plays so important a part in art, is then based upon the truth of things; for man is the highest form, the final idea, so to speak, of nature. He is right in referring to this ultimate form all the antecedent forms which have preceded and prepared the way for it. This is the deep meaning of St. Paul's declaration, that the whole creation groaneth and travaileth in pain together . . . waiting for the revealing of the sons of God. Man is the son of God upon earth. Creation terminates in him, and in him alone attains its true ultimate idea, which is at once its formal and final cause. Hence the mysterious groaning of creation; hence its deliverance when man, set free from the mere life of instinct, recognises himself, and finds in himself the key to the universe. After having thus derived from his own psychical life this formative idea of the world, man clearly discerns it in nature,

and finds himself capable, as it were, of drawing it forth. This anthropomorphism, which is in a sense the enfranchisement of nature, the setting free of the idea lying in it latent and confused, permeates human language, which is one perpetual metaphor, always connecting psychical with natural facts, and making nature the mirror of the soul of man, so that every thought and feeling clothes itself in some natural symbol. Nature, thus interpreted by man, is the alabaster lamp through which shines the pure light of reason.

Art, as we have said, endeavours to realise the sense of the beautiful. This requires effort, because it is not enough to know that beauty is in things; we must begin by separating it from the things themselves. Beauty does not exist in things in such a way as to be apparent to mere sensation, nor does it exist everywhere equally. To reproduce nature by a mere process of imitation, is to appeal to sensation alone; it is to stifle the idea, the form, under the material phenomenon. If indeed the imitation could be complete, the artistic work would produce the same effect that nature ultimately produces upon the mind; but this complete imitation is impossible. No music can reproduce the swelling roar of ocean; no landscape can raise a real mountain before our eyes; no poetry can truly render a storm or a May morning. The imitation is thus incomplete, and if it aims merely at the natural effect, it gives it in a coarse and imperfect way. Art is not then a mere copyist. Its first aim is to bring out prominently the harmony, the co-ordination of the parts in nature, which is not apparent to the eye alone. The artist interprets nature therefore according to his own type and throws into it thought and feeling. A landscape by Ruysdael or Claude Lorraine bears the seal of the artist's individuality; it is a page of his inner life. In the second place, art makes its choice in nature; for beside the elements of order, of beauty and harmony, there is in nature discord, confusion, in a word, ugliness. We may believe that in the end this discordant element will resolve itself

into the universal harmony, and may even contribute to it in a way; nevertheless, since art cannot represent the totality of things, it is obliged to choose, else it might leave upon us in the end the impression of unrelieved ugliness. Hence it is obliged to pass by some part of the reality, in order the better to bring out the inner principle of beauty, the parent idea of form. It always aims to bring its scattered rays to a focus, in order to give prominence to the beautiful. Hence also the conventional form and mode of rhythm, which has no counterpart in reality; wherein art subjects to a twofold co-ordination the determining factors that reduce matter to order and coherence. Rhythm is not a mere attempt to overcome a difficulty, but an accentuation of the determining, co-ordinating form, without which beauty is impossible.

This process of artistic abstraction and selection must not be carried so far as to reduce art to a pure abstraction. Since art resides in the form which brings out the harmony of things, it cannot be a mere conception, an empty idea. It is necessarily sustained by the world of sensation; hence it must begin in a reality. There is no art without this fundamental realism, just as there is none in the mere reproduction of nature. The purely fanciful creations of the imagination do not belong to its domain. Chimeras and the colossal sculptures of Buddhism are as much exceptions in art as are monsters in the cosmos. This necessity laid upon art to take true nature as its starting point, explains the free scope which it gives to imagination in nature. What is needed is not that simply reproductive imagination which is content to perpetuate and renew our sensations, but that creative imagination which enables us to combine and arrange them. This power is essential to the artist. On the one hand, his imagination must be strongly impressed by nature; on the other, he must possess the capacity to combine its elements so as to educe from them a world of beauty such as unaided nature does not present.

We are thus led to the second characteristic process of art,

which consists not only in educing the beautiful from nature, but also in enriching the type by creating an ideal world. This ideal is never a vague abstraction. All its elements are taken from the real, but art combines them in such a way that it becomes really creative. Its creations are not *ex nihilo;* but resemble those of Plato's Logos which sets the seal of his ideas upon nature. Two things must pre-exist before art is possible. There must be, on the one hand, the type of the beautiful in the mind, and on the other, nature with its fragments of the beautiful scattered abroad. By its creative energy, art acts spontaneously, and appeals to the sense of freedom in man. The beautiful, in so far as it is a creation, is a setting free of nature. To elicit the ideal of nature, and then to organise a world of beauty greater than that which our senses perceive, is to rise above nature and break through the fetters of necessity.

We must be on our guard, however, against confounding this assertion of liberty with the moral triumph achieved in the fulfilment of duty. Just as art is distinguished by its plastic character from the quest of the true in which the intellect is engaged, inasmuch as it never seeks the idea in itself, apart from its visible embodiment; so is it distinguished from duty inasmuch as it is in no way obligatory. Duty constrains us; we are bound to do it, cost what it may; the right is imperative. Art, on the contrary, is essentially disinterested. It cannot then be identified either with the useful or the agreeable. M. Renouvier says: "Contemplation is the chief feature of art. The part taken by the intellect in the appreciation of the beautiful, by the ideas of order, of arrangement, of perfection, reduces the idea of design to the disinterested state. It is clear that it is never the thing itself which touches us in the beautiful, but the image, the representation. The beautiful is always a thing to be contemplated; its object is representation for the sake of the representation. In a word, neither the agreeable, nor the useful, nor the true, nor the good, constitutes the beautiful; but all these phenomena enter into it as elements

in various degrees, on condition of subordinating themselves to the representation taken in itself and considered as its own end." [1]

If art loses this disinterested character, if it aims to be something more than a representation, if it attempts to teach or to preach, it goes beyond its competence. It is no longer art; it is philosophy or morals, and all becomes confusion. We do not mean that it escapes the direction of the will; but being a manifestation of freedom, it is capable of abusing it, of failing of its true purpose, of deserting the ideal and pandering to the sensual by giving too vivid colouring to the lower aspect of nature. Art has a morality of its own, derived from its true intention. Its mission is not to search out the true, or to carry out the right; but to represent the beautiful, which is the glory of both. It is open to the artist therefore, in the vast field of nature where he is to make his choice, to prefer that which pleases the senses to that which elevates the mind. Evidently this deviation of the artist from his true course, must have a moral cause, for man's nature is one and indivisible. When the inspiration of the artist is noble and pure, it shows that the moral level of his nature is elevated and purified, or at least that he belongs to a social environment in which wholesome influences predominate, for no one is more open than he to such influences, on account of the extreme sensitiveness which is one of the conditions of the artistic temperament. The disinterestedness of art does not make it irresponsible; and yet without this disinterestedness, art is impossible. The theory that art is its own object, is true under these limitations.

The reader can now judge how far we admit Kant's famous theory enlarged upon by Schiller, that art is a mere pastime. It certainly is no such thing as understood by Herbert Spencer and the whole transformist school. They regard it as simply an overflow of superabundant energy, by means of which all the faculties of the living being are developed in the way most

[1] "Principes de Morale," Renouvier, pp. 252, 253.

useful to him in the struggle for existence. It is as impossible to derive from this definition the true idea of the beautiful inseparable from an ideal element, as from Darwin's sexual selection, which deprives art of all disinterestedness, since it makes it subservient to the strongest of the animal appetites.[1] The only thing we accept in Kant's "Æsthetics" is the disinterested character attributed to art so long as it is dedicated, not to the search after the true and the right, but to the representation of the beautiful, while at the same time it acquires no right to seek for the beautiful apart from the good and the true.

The idea of mere pastime or amusement, even thus understood, is far however from exhausting the idea of art. We have so far drawn attention to two of its principal ends, which are, first, to elicit the beautiful from things and then to create new types of beauty, an ideal world superior to the real though based upon it. It has still a third purpose to fulfil, namely, by the mere fact of the comparison between the real and the ideal world (not only the ideal world which it creates, but also that which it conceives), to give peculiar emphasis to the contrast. We must not forget that all the faculties are brought into play in the work of the artist, on condition that they are all subordinated to his particular object. The reason and the will have both an unquestionable share in it; feeling comes in still more directly, by the rapid, instantaneous intuition which is called inspiration, and by the strong effect produced upon it by the beautiful. This effect is never greater than when art is not content with making us admire the beautiful as perceived in things or above things, but when it brings out with its magic of expression the sharp contrast between the realities around and the type of the eternal beauty within us. It is on this essential point that the æstheticism of Hegel, otherwise so full and suggestive, shows itself so incomplete. Pantheistic idealism recognises no ideal outside nature; everything in nature

[1] "Descent of Man." Darwin.

Is, or rather becomes, perfect in the evolution of the divine idea. Beauty is the reconciliation of mind and matter. There is nothing higher to seek.[1] The sublime is then nothing more than the exaltation of natural beauty, the idea breaking through its first form to prepare for itself another and more adequate form. No one has given more marvellous rendering than Goethe to this pantheistic conception of nature. He says: "Nature is the unique artist; each of its works has its own type, and all form a part of the unity. All men are in nature, and nature is in all men. Life is one everlasting Becoming; even that which seems against nature is still nature. Its drama is always new, because it has always new spectators. Life is its most beautiful discovery, and death is for it the means of multiplying life. It has no speech nor language. Its crown is love. It rewards and punishes itself. It is fierce and gentle, kind and terrible, powerless and supreme. In it is everything at all times. It knows no past, no future; the present is its eternity. It is beauty. I glorify it for all its works. I trust myself to it; I say nothing of it; for it has uttered the false as well as the true. Everything is its fault; everything is its praise."[2]

This theory is not true to fact. There is an entire aspect of art which cannot be included in this naturalism, poetical as it is. We find in this domain, as in others, the aspiration of the human heart which is never satisfied, the bitter sense of incompleteness and contradictoriness in the natural world.

[1] See Hegel's "Æsthetik." M. Adolphe Pietet, in his book, "Le Beau dans la Nature et la Poésie, Etude Esthétique," comes very near to Hegel's point of view, for he holds the mission of art to be simply to free the divine idea from the form in which it is latent. He says: "The beautiful in nature is the proximate and free manifestation of the divine idea, revealing itself by sensible forms."—p. 82. M. Taine, in his book, "L'Idéal dans l'Art," is still more realistic; for art, according to him, only underlines nature, giving prominence by suitable combinations to such of its leading features as are at once important and beneficial.

[2] "Complete Works." Goethe.

The comic element alone, which plays so large a part in art, suffices to show that this sense of contradiction cannot be confounded with a mere aspiration after the development of natural beauty, for the comic has in its depths an undertone of mortal sadness, though it may play on the surface with sparkling gaiety, and irresistibly provoke to mirth. It is based primarily upon the recognised contradiction between that which is and that which ought to be. It is, after all, only the counterpart of the tragic and pathetic inspiration which has so often made the heart-strings vibrate even to breaking. Plato has given immortal utterance in his "Phædrus" to this aspect of art. "The soul," he says, "still full of the memory of the holy things which it beheld in the world whence it came, when it sees any one having a god-like face or form, is amazed and stricken with awe. And when it beholds true beauty, it is transported and enraptured; for there is no inherent light in the earthly copies of justice or temperance or any of the higher qualities which are precious to souls; they are seen through a glass dimly; and there are few who, going to the images, behold through them the realities, and they only with difficulty." [1]

This recollection or foreshadowing of the ideal world for which we are made, is never more strongly revived than by that exceptional manifestation of the beautiful which we call the sublime. The sublime is not simply the beautiful in its highest degree; if so, it would only be the most perfect of harmonies. Its peculiar characteristic is, that it breaks with a sudden burst the harmony of things as we perceive it. It does not strike us as contrary to order, incoherent, monstrous; it is the extraordinary, and hence it speaks to us of a beauty higher than that of this world, an irradiation from a higher sphere. In nature the sublime in repose is grandeur, the vastness which calls up before us visions of the infinite and seems to throw down the barriers which our aspirations could

[1] Plato's "Dialogues."

not pass. Hence the emotion we experience when we look up into the great vault of heaven; or on snowy mountain peaks. The roar of the angry ocean, the rush of the tempest, produce in us the same impression, because they give us glimpses of a power which knows no bounds. Before these various aspects of the sublime in nature, we feel ourselves at once overwhelmed and uplifted; our hearts sink only to rise higher in the sense of freedom. In the human order, the sublime is the highest inspiration; with one stroke of the wing it raises the poet to heights which by no continued effort he could ever climb. It reveals to him a higher order of liberty than anything he knows, and lifts him into a world where all the fetters fall from his spirit. From a moral point of view, the sublime is the heroism by which man is consciously raised for an hour to the height of his own ideal of devotion. The sublime is, so to speak, the supernatural element of the beautiful; it is the swift lightning which, flashing through our night, rends the clouds, and gives us a glimpse of the eternal idea in its perfect realisation. Hence, while it enlightens it consumes us, and excites the unquenchable thirst after the ideal.

Art, thus regarded, may find a place even for ugliness, provided it never reproduces it for its own sake, but simply with a view to enhance the beautiful by contrast; or with the intention of bringing out more forcibly the imperfection of our actual condition. True human art cannot be simply a serene and ever smiling denizen of Olympus. Great lyrical and dramatic poetry is the graphic representation of the story of our crimes and sorrows, our repentings, our high and baffled aspirations. "Humanity," says Ozanam, "has given itself no spectacle but that of its own griefs. I cease to wonder that it has never wearied of it. It loves to look upon and touch its wounds, even if by so doing it makes them bleed afresh; therefore we are never satisfied unless we find tears in the draught of poetry."

It is evident then, that if in one sense art is a pastime, it is

never a trifling pastime. It justifies the profound saying of Pliny the Elder about man, to which we attach a meaning beyond that which it originally conveyed: "*Flens animal imperaturum.*" For all his kingly destiny, man weeps; and there can be no stronger proof that, if he is the end, the object, the crown of the world, the world is not his end, since he can at once govern it and sigh for something beyond. A strange animal indeed is man! Shall we not rather say that he is something greater and better, and that no materialistic theories can avail to imprison in the cage of naturalism this "wounded eagle with eyes ever turned towards the light"?

CHAPTER III.

RELIGION, ITS NATURE AND ORIGIN.

I. The Nature of Religion.

We have seen all the faculties of man pointing up to God. His speculative reason, which, by virtue of the principle of causation, impels him to seek the first cause of things, and gives him the intuition of the universal, the infinite, would be doomed to a progression without an end and consequently without reality, if it did not lead up to this primal, universal Cause, this living Infinite, to which the spectacle and the study of the cosmos conducts it by a chain of irresistible argument. His practical reason, which rests upon the principle of obligation, constrains him to rise to the law written upon the conscience and to the Legislator Himself, to the Eternal, Absolute Good. His heart, with its infinite craving for love, demands it. He seeks in everything the ideal, the fully realised harmony of things. Human art, after revealing to us by the lightning flash of the sublime, the lofty sphere of the highest beauty, proclaims it to be divine by its own failure to realise it in its highest efforts. All the avenues of the soul, so to speak, lead up to God Himself. The metaphysical, the moral, the affective life, all that is bright, terminates in the divine; that is to say, there is not one of our faculties which is not, in its highest aspect, religious. And yet religion, in its essence, is not identical with any one of these, and is not content to be merely their highest generalisation. No; religion is in itself neither metaphysics, nor morals, nor

æsthetics, nor mere emotion. The metaphysician may be mighty in establishing by argument the existence of a God, and yet may not be religious; the theologian may elaborate an admirable theodicy and yet be a profane man. An austere practical moralist may, with all his virtue, make God secondary to himself in his life, and only cherish, like the Stoics, a proud satisfaction in his own merits. No one will deny that the artist may make his canvas glow and breathe with a divine ideal, and yet, like Raphael, lay his art at the feet of a human idol. The heart may be rapt in mystical ecstasy and yet fail to fulfil the law of purity and holiness. Between sentimentality and charity, the interval is often immense. Even devotion is not religion. Religion is something special, unique; it is, as its name indicates, the bond which unites man to God, the source of his being; it is the striving, the tending towards Him. In a word, religion is life for God, with God, in God. We say life, because this word comprehends the whole of man, not one particular sphere of his existence. To isolate religion, to set it apart under pretext of exalting it, to make it consist in certain acts, certain sentiments, and to dissociate it from all the rest of our life, is the very essence of all Pharisaism and worldly devoteeism. To allot a certain part of our life to God, reserving the rest to ourselves, is to rob Him of that which is His due, namely, the whole man, who, without maiming his existence, without quelling or repressing one of his faculties, should live in God, by Him and for Him, and cannot be truly religious short of this. Religion is then a general pervading tendency of the soul, which, while it appropriates the divine elements contained in speculative and practical reason, and in feeling, makes them all converge to one end—life in God. This is the subjective aspect of religion; but religion is something more than merely a tending Godwards, and a striving to reach Him, for, to give it reality, it must find that which it seeks. Religion is only real if the relation between God and the soul has been truly

formed, if there is not only aspiration after Him but the possession of Him. Man tending towards God, God giving Himself to man; this is religion; anything short of this is only a delusive semblance. Thus understood, its truest and highest realisation is prayer, which mysteriously but really unites the soul to its Author and makes him drink deep draughts of the higher life at its true source. Prayer is not simply exalted feeling, the utterance of sacred words; it is primarily a striving, an act, an offering, a consecration of the whole being to God. While it is concentrated therefore in the verbal utterance of the heart to God, it does not end there. *Tacens loquitur.* When the lips are silent the life itself prays; and such prayer is offered whenever an inspiration of adoration and obedience raises it above the earth. Man, who is the crown of creation and its epitome, consecrates it in his own person to the Author of all things. He is the high priest of the world, which he represents before God, and which he lays at His feet whenever he himself kneels to pray. He is thus the link between the higher and the lower world, binding all creation to its source, to which he himself returns, not to be absorbed in the vague infinite of pantheism, but to realise the highest union between the created and the uncreated. Religion thus appears as the ultimate design of all this universe, for there can be no higher end than this free return of the created to the uncreated, the divine.

That this is indeed the true ideal of religion, is evidenced by all its higher manifestations in the history of humanity, and by all its aspirations, however dim and alloyed. If we look at all the great religious heroes, we shall find that the secret of their high spiritual power was just the unity of their religious life, the constant effort to live in God and for God, to consecrate to Him all their faculties, all their efforts. Prayer forms an important element in their life, yet it does not interfere with the consuming zeal often displayed by them in carrying into all spheres the divine life overflowing their

own hearts. The Acts of the Apostles shows us this fruitful unity of the life, now concentrating itself in prayer, now diffusing itself in action. Jesus Christ Himself is the perfect type of a life unreservedly consecrated to God. In Him, religion is His very life. All His faculties, all His acts combine in one constant effort to be wholly God's, and to do all for Him.[1] This conception of religion sets aside all the exclusive notions which limit it to the exercise of one faculty, whether metaphysical reason, or practical reason, or feeling. Current orthodoxy makes religion to consist in the supernatural communication of a sort of divine philosophy filling up the gaps of our human reason. Hegelian idealism, which is the opposite extreme, defines religion to be the knowledge which the finite mind possesses of its essence as absolute mind, when it has reached that point of eternal and incessant Becoming, in which the Idea, before dispersed and subdivided in things, begins to apprehend itself in man, before attaining its full enfranchisement in philosophy. Hegelianism, starting from such premisses, has not succeeded in tracing any distinct line of demarcation between religion and metaphysics. Kant reduces religion to simple morality. God only appears as the prop of morality or its postulate. Moral obligation derives everything from itself; the law of duty never goes beyond the abstract, and fails to connect our life with God, who is simply the guardian and overseer of duty. His part is to reward the fulfilment of duty and to punish its violation. He does not give us more help than we ask.[2] Schleiermacher makes religion to consist primarily in feeling. It cannot be denied that at the time when his essays on religion appeared they produced a healthy reaction against the supernaturalistic rationalism which was content with barren formulas. Nor must it be forgotten that Schleier-

[1] See M. Charles Secrétan's suggestive article, "Le Positivisme," "Revue Philosophique," March, 1881.

[2] "La Philosophie de la Religion de Kant." Philippe Bridel.

macher, in his system of doctrine, enlarged his first standpoint by connecting Christianity with the person of Christ, and thus recognising the historical fact. His fundamental conception of religion is, however, still too exclusive, because he does not give sufficient scope to the moral element. Reduced to a feeling of absolute dependence, religion verges on Spinozism. It is in danger of becoming mere absorption of the finite in the impersonal infinite, and of terminating in a system of pantheistic metaphysics; it supplies no principle or power of action. It is needful, then, to broaden Schleiermacher's conception so as to make it embrace all our faculties, by giving them God, not simply as an object, but also as an end and aim, which implies an active tendency, effort, a positive relation to Him.

It is no contradiction to recognise the share of all our faculties in religion, and yet at the same time to give predominance to that intuition of the divine without which we should never arrive at it. In fact, the very nature of its living object requires that our intuitive and moral faculties should occupy the first place. Intuition is not confined to feeling. We have shown how it forms the basis alike of speculative and practical reason. What is it, after all, but that initial act of faith by which we apprehend in everything the first principles on which depends the chain of secondary effects which logic unrolls to us? By this intuition, speculative reason arrives at the cause of causes, the universal, infinite causation. Practical reason rises to the absolute good, and the heart to the equally absolute Personality who is the object of its aspiration, before He becomes the satisfaction of man's infinite craving for love. That which is called the sense of the divine does not belong then solely to the domain of feeling, but implies that threefold intuition which becomes one in the mind; for, as we have repeatedly said, this division is only a condition of abstract thought, without which any psychological analysis would be impossible. It is to this primal intuition, which is, as it were

the trunk from which spring the branches of speculative reason, practical reason, and feeling, that we owe the sense of the divine, of the absolute or the infinite. The unity of man consists in this threefold intuition of the divine, since the God whom it directly reveals to us, is at once absolute reason, absolute good, and perfect love. It follows, that in order to be united to Him, we ought to know, obey, and love Him.

We can now understand how impossible it is to divorce religion from morality, distinct as we hold them to be. In the exalted sphere of the religious life, as in all the psychical life of man, it is the will which has the chief share in raising us to the fulness of conscious life. The primary intuitions which constitute the sense of the divine exist first in an instinctive, passive, almost impersonal state. It is the will which raises them to conscious life. The relation of man to God becomes thus a free, voluntary relation, and passes from the simplicity of childhood into moral manhood. Here again it is natural to man to seek his own highest development. Religious by instinct, he is to become so by free choice, and this free choice is the great act of his moral life. Hence the sense of responsibility to God, inseparable from the sense of moral obligation. The moral law becomes identified in his mind with the essential law of his being, which is, that he join himself to God, to love and obey Him. It is to Him man feels himself answerable; he feels that in all his moral defalcations it is against God he has sinned.

This close union of morality with religion, while it is an indisputable fact, has been objected to on the ground that it gives to the law of moral obligation an external character which renders it arbitrary, the moral authority no longer coming from within but seeming to be exercised from without. The objection ceases if we admit that man stands in an original primordial relation with God, that all the roots of his nature lay hold of God, that in the depths of his being he belongs so completely to God that that which is most human

in him, is that which is most divine. The divine law cannot then any longer be spoken of as a law outside the man; it presents itself rather as the most fundamental law of human nature. Religion is so natural to man, that it is his nature. What distinction can there really be between natural and revealed religion? The first of all revelations to man, is his own soul, as it is constituted by his relationship to God. If a second revelation comes to him, it is only possible through the first, which it reawakens into life. Religion is not something superadded to man by a special gift; man is only man in so far as he is religious. The identification of morality with religion, then, in no way deprives the former of that intuitive primordial character which distinguishes it from anything arbitrary. This essential relationship of man to God, which is to become a free and voluntary relationship, implies not only the conception of the infinite but also of a future life. This is implicitly contained in it, although it may sometimes remain altogether latent or be very dimly apprehended, as in Judaism. To believe in the Absolute, to feel drawn to unite oneself to Him by love and aspiration—and this under conditions of existence which condemn us to humiliation and imperfection—this is, in truth, to look to another life beyond this imperfect existence for the true fulfilment of man's destiny, and to reach forth after it with all the soul's yearnings. The moral law, moreover, would lack any adequate sanction, if there were not another life than the present, in which injustice so often triumphs.

From this analysis of religion we gather that its essential elements are:—

First.—The intuition of the infinite by all our faculties—speculative reason, practical reason, and feeling.

Second.—The indissoluble union of moral and religious feeling.

Third.—Faith in a future life and its righteous retributions.

Nor is this all. This analysis would suffice if one were

treating of religion in itself realised in harmony with its own law; but it is not thus that it presents itself to us in its human development. I do not touch at all on the problem of the origin of evil from a doctrinal point of view. I simply look at the manifestations of the religious feeling as we find them universally over our world. Now, one thing is certain and self-evident—that this feeling does not express merely the tendency to form and to sustain a close relation with God, but also the painful and arduous effort to restore that broken relation. Mankind is strongly possessed with the feeling that there is a Deity to be appeased; whether rightly or wrongly, it feels that it must get reconciled to this mysterious power. This is the meaning of those sacrificial altars reeking often with human blood, which we find in all lands; this is the burden of heathen rites, often cruel and abominable, but none the less expressing the human need of reconciliation and expiation, with an intensity of despair amounting almost to madness. How can we account for this tragic element of religion, which is not an accidental, transitory, intermittent fact, but one common to the race of man?

It is upon this point that the theory of evolution, applied to religion, proves incapable of giving a sufficient reason for an undeniable fact. We are not speaking, for the moment, of transformist evolution, which makes religion, morality, mind, life, all mere transformations of energy. We shall look more closely presently into its explanation of the origin of the religious feeling. We are now referring to those noble thinkers, as true spiritualists as ourselves, who look upon the history of religion in humankind as a merely normal development; the succession of the various ages of the race rising from infancy into maturity. From this point of view, the piercing cry which rises from all temples, because from the depths of the heart of man, is inexplicable. This is brought out very clearly in two important works recently published on this subject, which set forth the development theory. The first is Otto Pflenderer's

remarkable work, "Die Religion, ihr Wesen und ihre Geschichte," the other is M. Réville's "Prolégomènes de l'Histoire de la Religion."

Pflenderer, like Hegel (from whom however he differs on more than one important point), regards religion as the true idea of the world, which is the reconcilation of the finite with the infinite. In man this is carried on by a slowly progressive development. Like all that lives, he has a fundamental tendency to the maximum of *being*. In the animal this tendency is expressed in sensation. In man it is identified with the effort by which his personality is constituted, and it is directly accompanied by the feeling of his imperfection or rather limitation. Hence he is constantly urged on to seek adequate satisfaction, an infinite satisfaction, in an object corresponding to himself, which can be no other than God. Religion consists in the reconciliation of this twofold tendency, implicitly contained in the original tendency towards being. The personality only asserts itself with a view to break through its limitations and unite itself to the infinite. Thus, liberty and the feeling of dependence are reconciled. Religion has its seat in that deep region of being called by the Germans the "*Gemüth*," but it is also to develop itself in the various spheres of the psychical life, which comprehend thought and the will. This development is progressive, it passes through successive phases, which are as necessary as the various ages of life. In the intellectual domain, religion begins with the myth, then rises to the idea, the dogma, and becomes scholasticism or dogmatic theology. Recognising presently that it must embrace intuition, it concludes by a broad scientific synthesis, in which all the elements of our being find a place. In the sphere of ethics, after an initial phase in which morality and religion are still separated, as in Stoicism, we arrive also in the end at a comprehensive synthesis. Worship calls forth the social and collective character of humanity, and gives full satisfaction to the religious feeling by symbols becoming ever purer. The idea of the cosmos,

which finds its highest expression in man, is most powerfully realised in worship, by prayer and sacrifice. Worship, raised to its highest degree of spirituality, truly unites the finite to the Infinite Spirit, and appeases without silencing the inherent craving of our nature for full and true life.

Starting from these principles Pflenderer describes the religious development of mankind by a very ingenious classification of the great religions which form the steps of one continuous upward progress. Religion, thus represented, is simply the realisation of our higher destiny; for the sense of evil is identified with that of limitation, and so becomes a part of the essential conditions of our being. M. Réville's theories, explained with masterly clearness and high-toned thought, lead to the same result because they are based on the same principle. He says: "Religion is the determination of the human life by the consciousness of the bond uniting the human mind to the mysterious Mind, whose governance it recognises in the world and in itself, and with which it comes to feel itself united.[1] The history of religion is nothing else than the progressive development, under various forms, of this elementary feeling, from the first rude outline to its final expansion. "This principle of development," says the author, "is in its essence only the application to human history of the principle of continuity, which is being ever more gloriously vindicated by the researches of modern science in every direction. It is increasingly evident that there is an unbroken chain of interdependence running through all things, that there is an inherent logical connexion between realities that present at first sight only disparity. Every development supposes a primitive germ, which unfolds itself, grows, and tends to connect man with the Eternal Spirit. All religion, in all its various manifestations, from the lowest to the highest, is but the necessary evolution of this primordial instinct."[2]

Without calling in question the element of truth contained

[1] "Prolégomènes," Réville, p. 34. [2] *Ibid.*, p. 33.

in this conception of religion, which is primarily and essentially an endeavour at union between the finite and the Infinite mind, we cannot accept it as a sufficient explanation of the religious fact regarded in its actual conditions. We repeat, we are not contending for the dogma of any Church, but simply for the recognition of positive facts. Now, we have seen that all religions express, not only the sense of limitation, but that of a great wrong to be set right, of a reconciliation to be effected, a restoration to be sought. We cannot attempt here even to sketch the history of the rise and growth of these various religions. We look simply at clear, universal manifestations of the religious feeling, such as sacrifice and the priesthood. M. Réville asserts that sacrifice, in its original form, was simply an offering designed favourably to dispose the Deity towards the worshipper.[1] It is with this intention that the worshipper offers food. Yet the author himself acknowledges that man seeks in his offering rather the means to re-establish the union between himself and the Deity, and that in the end he comes to attach to it an expiatory value. He says: "When man represents the Divinity to himself, no longer merely as the distributor of physical good and ill, but also as the guardian, the avenger of the divine law, the reflector of the remorse which wrings the conscience, this Divinity can only be appeased by a special or expiatory sacrifice, the idea of which survives all the rest and bequeathes a dogma to Christianity."[2] I know, indeed, that M. Réville regards this conception of sacrifice as only a transient phase of the moral evolution, which has no corresponding reality, else he would see something more than mere normal development in our religious history. If the felt need of expiation is based upon a reality, there has been not only evolution but a violation of the law of things; there has been disorder, a rupture of the normal relation between man and God. Be this as it may, this is what the conscience acknowledges,

[1] "Prolégomènes," Réville, p. 179. [2] *Ibid.*

even in its most barbarous rites. I adduce only one proof of this—the sublime hymn of the Vedas, quoted by Max Müller as the penitential psalm of the Aryans. This comes to us as the echo of the most ancient religion of which our rude forefathers had become conscious, and it truly expresses the universal human feeling, for the very same plaint rolls its long echoes through the vaults of all the temples and ascends to heaven with the blood of all the victims. It is the *Kyrie Eleison*, not only of the ancient East, but of the sin-stained and suffering world of to-day. "Grant,"—says the old unknown singer to his God,—"grant that I enter not yet into the house of clay. Have pity on me, O Almighty, have pity on me. If I go trembling like a cloud driven before the wind, have pity on me. God Almighty, have pity on me. How could I come to Varuna? Would he accept my offering without displeasure? I turn to thee, O Varuna, desiring to know my sin. Absolve me from the sins of our fathers, and from those that we may have committed in our own bodies, that, purified from all sin, I may give satisfaction to the living God."

It is not necessary to revert to the annals of a distant past to verify this penitent tone of the religious feeling; we have the living illustration of it in our own heart. Under our actual conditions this feeling is never separable from the bitter sense of wrong done, of guilt, of the need of reconciliation, in a word, of redemption. The longing for redemption harmonises with evolution in this sense, that while it does not proceed from it, it does in its turn enter on a progressive development. It is nevertheless true that the theory of evolution renders no account of this sense of the abnormal, of wrong, of sin, which in its bitterness and sorrow underlies all the religions of mankind. We freely admit with Hartmann, that nothing is more opposed to religion, as a real human fact, than the frivolous and superficial optimism which sees in it only the worship of the ideal. He says: "Religion everywhere springs from the amazement which the human mind

experiences in view of sin and evil, and from the desire which it feels to explain their existence and, if possible, to destroy them. The man who is conscious of nothing wrong, who is accused of no fault, will not seek to raise his thoughts above the interests of this world. But he who says, How is it that I have to bear these ills? and how can I reconcile my guilty conscience with itself? that man is on the track of religion. It is only when the painful doubt, caused by evil and the accusations of conscience, outweighs the joys of life and becomes the habitual disposition of the soul,—that is to say, when it has reached the pessimist standpoint,—it is only then that religion can lay hold of the heart. Apart from the pessimist attitude of mind, religion cannot grow.[1]

We pass over in silence Hartmann's biting sarcasms on the shallow optimism which transforms the religious drama into a tame idyll, because the same weapons might easily be used against absolute pessimism. In truth, this pessimism, by making evil an inevitable necessity, blunts the point of remorse, and practically leads to the most unworthy consolations as Schopenhauer proves. If religion were pessimist after the manner of the worshippers of the senseless Unconscious, which doomed us to ill by inadvertently calling us into being, it would not arouse either the stern reproaches of conscience or the strong yearnings of the soul after redemption. The sorrowful pessimism of true religion is widely different from that of Hartmann, because it begins with an optimist view of the world. It believes that the world was made for good and happiness; if it has lost these, it is because of wrong, of an aberration as terrible as it is mysterious. Hence remorse, with its anguish. Hence the craving and seeking for pardon. The sorrow inseparable from the religious feeling till it has found its great quietus, attests by its very nature the belief in man's freedom of action. Humanity feels truly, however vaguely, that if the bond between it and God is broken, it is by its

[1] "Religion der Zukunft." Hartmann.

fault, else it would know neither remorse nor longing for pardon. The gravest charge we have to bring against the theory of evolution applied to religion, is, that it ignores its moral character, and eliminates that freedom of choice without which religion would be nothing more than a higher instinct. As we have already shown in relation to the other manifestations of the psychical life, free-will alone raises it from the instinctive and unconscious state to reflexion and voluntary action. The true religion for man, corresponding to the ideal of his moral nature, must be the free surrender of his being to the God who offers Himself to man. This implies that the surrender may be withheld. Now the sufferings and the aspirations of mankind alike prove that he believes that in the mysterious past he has gone astray from God. We do not ask whether this is or is not an illusion of the mind, whether the fall can be established on sound evidence. We simply affirm that mankind has believed it, and that the religions which he has framed out of his own consciousness have without exception conveyed this bitter acknowledgment of the fall, the source of all his remorse and all his aspirations. We must then either deny the idea of sin, which is at the root of all religions, or recognise that the theory of mere religious development does not correspond to the facts. M. Renouvier says very justly: "Religion is nothing if it is not the acknowledgment of sin in the general and the particular, and the redemption of the sinner." [1]

If the religious feeling in its depth and breadth includes at once the conviction of sin, that is of a violation of the divine order, and the aspiration after redemption, it follows that it implies the idea of the supernatural. This has, in truth, never been absent from it. It is undeniable that there does not exist a religion which has not believed in a free intervention of Deity to help man to restore the broken bond. Man could

[1] "Critique Philosophique," April, 1881. See M. Astié's article on Religion in the "Encyclopédie Lichtenberger."

not but believe in such an intervention by a sort of psychological logic. If sin and disorder have come, true nature no longer exists; and if nature perverted is left to work unhindered, the disorder will be eternal and incurable. Of what avail is it to try and banish or minimise the disorder, if the evil is beyond remedy? Whenever man attempts a reparative work, it is in the hope that this perverted nature will not be left to itself, that it can be restored; and who could restore it but its author? The supernatural, then, is but a restoration of true nature, a reinstatement of the true relations between God and man. The antinomy is only between the supernatural and nature falsified, which might be called the *contranatural.* The imagination of man grafts a marvellous and fantastic growth on this hope of reparation or restoration of true nature; but such a hope is none the less inseparable from all positive religion, which is based upon the hope of or the endeavour after the great reconciliation. Faith in the supernatural, considered in its origin, is not the purely intellectual conception of a supernatural revelation, which multiplies prodigies to constrain the human mind into accepting a doctrine that it cannot grasp, and which can only be victorious by trampling on his reason. No; that which man seeks is more than an idea about God, it is God Himself, a God reconciled and responsive to all the aspirations of his nature. Revelation is to him one with the effective manifestation of God. If the inward revelation does not satisfy him, it is because of his voluntary separation from his source; but all the outward historical manifestations of the divine will have a value and a meaning only as they correspond to and quicken into life the sense of the divine which is in him.[1] Revelation and redemption are one. If the former has been separated from the latter, and reduced to unintelligible oracles, this has been the work of the scribe and the rabbi; but the true aspiration of mankind has risen to a far grander height. That which it has sought is a pardoning God,

[1] "Zur Offenbarung." Rothe.

lifting man up from his low estate, giving Himself to man, and making His free love victorious over the principle of evil and of death, which falsifies nature. Under its highest and purest form, in Christianity, religion presents itself to us pre-eminently in this character, by which it is broadly distinguished from a mere belief based upon miraculous oracles. It is in this higher form that, after its previous admixture with so many elements which alloyed and sullied it, the religious feeling expands like the blossom that has burst its sheath, or the winged insect emerging from its chrysalis. Religion then is the highest and holiest expression of this aspiration after the ideal, which we have observed to be one of the characteristic traits of humanity. It becomes aspiration not merely after the ideal in a vague indefinite way, but after the restoration of the true idea of humanity by redemption. Whether the supernatural interposition implied by such a conception of religion has really taken place, is not for the moment the question before us. We know only that, natural laws being contingent or non-necessary, such an interposition must be possible on every scientific theory which does not resolve itself into pure mechanics, and which admits, in addition to force, that which qualifies and modifies force, namely freedom of action. The problem of the supernatural is a vast one, and is not to be solved either by summary affirmation or negation. The opposition between the natural and the supernatural cannot be said to be absolute, for we are acquainted with only a very small part of the laws and forces which constitute the great whole of the natural order as known and governed by its Author. May we not say with St. Augustine, that that which is limited is not nature but our knowledge? Let us never forget that the dependence of our nature on its Author is the first of natural laws.

If we sum up the various characteristics of religion, we shall find that foremost among them is the striving of humanity with all its faculties to reach God. Having given us the intuition

of the infinite Being, who is also the absolute good and perfect love, religion binds closely together the religious and moral consciousness and the deep need of loving which is in the heart of man. The belief in man's future destinies is one of its essential elements, for if there is no life beyond death, his highest aspirations are delusive, and the moral law has no sanction. Lastly, religion expresses by rites and symbols at once the deep sense of sin, which has interrupted the normal relations between man and God, and that aspiration after redemption, which is no less universal. This is the conclusion to which we are led by our inquiry into the fact of religion as it is presented to us in history. Let us now see what explanation is given of it by the materialism of the day.

II. Various Explanations of the Origin of Religion.

Let us first show generally that religion, reduced to its essential and universal elements, cannot proceed from the external world, as all the naturalistic schools affirm. This we have already proved in relation to several of these elements. As regards the moral aspect of religion, for example, we need only refer to our discussion of the origin of morality. We have there shown that the law of conscience is based upon a direct intuition, and that it appeals to an act of the will for its acceptance and recognition as a higher law than that of impulse or passion. Max Müller, in his attempt to find a physical basis for religious metaphysics, asserts in his "Lectures on the Origin and Growth of Religion," that the moral law is a deduction from inflexible natural law, which makes the world move in the right paths.[1] Hence the use of the word rightness in reference alike to the natural and the moral. We do not deny that human language has borrowed its symbol from nature, for the expression of this great idea as of all others; but it has put into it that which nature certainly does

[1] "Lectures on the Origin and Growth of Religion," Max Müller, p. 239.

not contain, namely, the idea of responsibility and of free action, which no one has ever associated with the regular course of the sun. We must not forget that man not only has the consciousness of freedom and responsibility, but also that he reproaches himself with having broken the law of right. Hence the painful contrast which he perceives between the reality before his eyes and his ideal. Now, this contrast can only be felt by him if he has the consciousness of a higher reality than meets his eye. His deep regret and sorrowful yearning suffice to prove that his moral sense is not derived from a purely natural source. That which he sees would not fill him with aspiration after the absolute good which he cannot see, if he had not a sort of inward vision, a sublime foreshadowing of it.

If from the moral element of religion we turn to the idea of the infinite, which is its essence, we shall recognise that the grandest scenes of nature are inadequate to give it birth. They dazzle, intoxicate, overwhelm, as they appeal to the senses alone; they produce an impression either awful or delicious; but they open before us no vista of the infinite. If they suggest the infinite, it is by an element derived from our own nature. Max Müller has indeed asserted in his "Lectures on the Origin and Growth of Religion," that our senses alone lead us to the idea of the infinite, and open to us in some sort the gates of the invisible, since in their highest exercise they reach after things intangible, such as the immeasurable vault of heaven with its ever receding distances. But that which is perceived by the senses can never be identified with the invisible. The vague and misty distance may give the idea of the *indefinite;* but the infinite is something altogether different. The indefinite is the finite prolonged; the infinite is the direct opposite of the finite. On this point we entirely agree with the theory worked out by Herbert Spencer in his "First Principles," in which he maintains that the idea of the infinite and that of the finite are correlatives, and that in

the mind of man the finite only exists because he believes in the infinite.[1] This great idea must be inherent in the reason, before reason can educe it from the finite, even from the vastness of the starry firmament.

We can easily understand how the son of the East projected on the heavens the idea of the divine innate in his own soul. We can well imagine the impression produced upon his mind by the brightness of the dawn purpling the plains and waking all nature to rejoice. We can understand how he came to conceive a divinity in the fertilising river, quickening into life the barren soil through which it flows, and to recognise a tutelary god on the domestic hearth, the joyous centre of patriarchal life. But again we say, he would not so have deified nature, if the idea of the divine had not sprung up from the depths of his own being.

We cannot admit that the belief in a future life, inseparable from the idea of the infinite, originates simply in respect for our ancestors. M. Fustel de Coulanges, in his book, "La Cité Antique," rightly assigns a large share in the primitive religious feeling to veneration for ancestors who, from their dwelling in the shades, keep watch and ward over their descendants. The fatherland is the sacred soil where the fathers lie buried. We recognise, as he does, that fatherhood was the most beautiful symbol of the Deity; but it would not have been deified if the sense of the divine had not previously

[1] "Though the Absolute cannot in any manner or degree be known, in the strict sense of knowing, yet we find that its positive existence is a necessary datum of consciousness. . . . We are obliged to regard every phenomenon as a manifestation of some power by which we are acted upon; though Omnipresence is unthinkable, yet, as experience discloses no bound to the diffusion of phenomena, we are unable to think of limits to the presence of this power, while the criticisms of science tell us that this Power is Incomprehensible. And this consciousness of an Incomprehensible Power called Omnipresent, from inability to assign its limits, is just that consciousness on which Religion dwells."—"First Principles," Herbert Spencer, p. 99. We have already pointed out how inconsistent this theory is with a system which allows no room for mystery.

existed in man. Apart from this, he would only have seen his fellow in the leader by whose side he had fought, and who had fallen before his eyes beneath the enemy's dart. Respect for a deceased ancestor could never of itself give the idea of immortality, for had not this beloved and honoured father been seen to die? The spectacle of death is still, even after eighteen centuries of Christianity, a stern test of faith in the future life. Who has not shivered with a chilling doubt in presence of the dark tokens of death—the quenched eye, the mute lips, the glazed forehead, the motionless hand that gives no responsive pressure? To hold fast our faith in life, in face of death, we must have something more than a dream, a shadow. Man in a savage state, has never been known to triumph over this awful reality, and to believe that while the body dies the soul lives on. Reason has never achieved a grander victory over sense. Where sensation says, *Death and destruction*, the soul says, *Resurrection and life*. There is, indeed, a majesty in death itself; if it does not reveal life, it does set a seal of grandeur upon the pallid brow. This idealisation, coming through death to a man beloved and venerated, must have made a deep impression on the rude offspring of a barbarous race, and, blending with the tender grace of memory, led to the apotheosis of their chiefs.

The worship of ancestors was but one step in the development of the religious feeling, and was quickly left behind. The humanisation of the divine was soon applied to nature. Man has a tendency to see the reflexion of himself in nature. He attributes to it his own faculties, and even the distinction of sex. Anthropomorphism, before it found its highest expression in Greek humanism, was manifested in all the religions of nature. It did not originate in mere legends without moral significance; it did not make the sun king of heaven simply because the chief of the tribe came from the East. It arose out of a deep and true idea, namely that the Infinite Absolute Being must possess life in its highest

form; free, moral life, not the trammelled life of matter or of mere animalism. Anthropomorphism is a fresh and conclusive proof that religion is not the impress of man upon matter, but rather the victorious reaction of the soul upon external things, to which it imparts of its own essence, and that, in a word, man is an essentially religious being. Hence, neither the moral basis of religion nor the conception of the infinite and of immortality can be derived from without and be simply natural. It is not nature which urges man on to the striving of his whole being to unite itself with God, which, as we have seen, is the essential characteristic of religion. Nature, undoubtedly, reflects the perfections of God, and leads up to Him as the one great cause adequate to the grandeur and harmony of the vast work before our eyes; but it speaks a confused language which needs to be interpreted by reason and conscience, if man is to rise above the region of sensation and mere emotion. It follows that nature alone does not render possible that great dialogue between the finite creature and the Infinite Being, which constitutes religion. Nature only sends back to man the echo of his own voice. But man needs One greater than himself to speak to his heart. The greatness to which we here refer is not a matter of proportion and dimension; it is the greatness of an order higher than nature. Every relation implies two terms; nature gives only one. We know, indeed, that man too often seems to stop at nature, and to worship it in some one of its manifestations; but it is only a seeming. The very fact that he worships, reveals that he has the sense of a Being greater than himself or any of his fellows. He feels this through nature. Even while he seems to stop at nature, he really goes beyond it; for the very idea of worship implies that the object of worship is greater than the created world. Let it be observed, that whenever man worships nature, he transfigures it, and lends to it an extraordinary faculty of rising above its own laws. Hence, even while he worships nature, he rises above it. Adoration blended with naturalism is implicitly the denial of the latter.

After this general refutation of the naturalistic explanation of religion, let us pass to the particular theories of which it is the animating principle. Some scarcely deserve examination. The euhemerism which regards religion as merely a distortion of historic tradition, the apotheosis by enthusiasm and imagination of the great warriors, heroes, and civilisers of primitive history, is so irreconcilable with the most elementary phase of the religious sentiment, that it only needs a passing mention. The Epicurean theory, which still has representatives among us, reduces religion to terror of the unknown; but, as M. Réville observes, terror does not exhaust the idea of religion, since man, even when reassured, continues to exhibit religious feeling; nay more, he finds actual satisfaction in dwelling on the tragic situation, and instead of endeavouring to escape from it, expresses it in appropriate rites. Now, it is certain that if religious terror was like our vulgar fears, we should try to dispel, not to foster it.[1] Darwin has really only repeated the Epicurean idea. He goes so far as to trace the primitive religious element in his dog, when the creature howls with fear before a curtain swayed about by the wind, as vaguely suggesting to it the idea of an unknown and terrible power.[2]

The positivist school sees in religion only that infantile state of the mind of man which leads him to worship fetishes, to identify the supernatural with the natural, and to incorporate in his rude idols the dim idea of an extraordinary power before which he shrinks in dread.[3] We pass by for the moment the historical aspect of this theory, to which we shall refer when we come to speak of the religious sentiment in primeval man. For the present it is enough for us to advance one psychological consideration in opposition to this theory. To say that fetishism is the origin of religion, is to say nothing

[1] "Prolégomènes," Réville, p. 102.

[2] "Descent of Man." Darwin.

[3] Girard de Rialhe has taken up and worked out this idea in his treatise of comparative mythology.

at all; for what we want to know is, what impulse led man to set up a fetish, that is to say, to deify a block of wood or an animal. Neither the one nor the other had anything divine in its appearance; to apply the adjective divine to a substantive so little in accordance with it, man must have had an antecedent idea of the divine which he projected on the object before him. The ruder the object of his worship, the more impossible is it that he should have derived from it the notion of the divine, and the more obvious that this notion originated in himself. The difficulty is only removed farther back, for we have now to inquire how this idea of the divine came into man's mind.

This necessity could not escape the logical mind of Herbert Spencer. He has endeavoured therefore to explain the origin of the religious feeling without going beyond the domain of sensation; for every idea, every feeling, according to the logic of his system, ought to come from without, not from within, since he admits no *a priori*, nothing resembling the soul or conscience.[1] He holds that the savage in every respect resembles the child; like the child, he makes no distinction between the natural and supernatural; in his simple astonishment at nature, everything is at once marvellous and natural. The impossible has no existence for him. Hence he is disposed to accept as real everything that strikes his imagination. He dreams, for example, that he has really been at the chase; the companions to whom he recounts his dream believe it even more strongly, because of the imperfection of his language, which does not enable him to say, "I dreamt that I went," instead of "I went." This hunter, who left his body to follow the chase through the forest, was not the same man who lay on the earth and slept, it was his *second self*. He believes then in a sort of duplicate of himself. When he walks in the sunshine his body casts a shadow; is not this shadow again his *other self*? May it not be this shadow which will steal

[1] "Principles of Sociology." Herbert Spencer.

away the body of his father when he is cold and motionless in death? The man has witnessed many metamorphoses in nature and in the animal world. Hence the idea of possible transformations for himself and for those he has loved. Syncope and catalepsy strengthen this belief in the reappearance of life after death. Thus the savage comes to believe in a region to which the shades are transported after this life, especially if the corpse has been duly tended. This region of the dead is at first supposed to resemble altogether the earthly fatherland; hence the weapons of the chase and the fishing tackle must be laid ready by the dead. Presently the sojourn of the dead becomes more distant and idealised in the mind of the savage. Spirits are constantly coming back to torment or to protect their descendants. The worship of ancestors grows out of this superstition. The shadows of the dead thus glide into animals and plants. Fetishism is the development of this primitive belief in a spirit world. The worship of the stars and of the sun has no other origin. The savage comes to locate in these heavenly bodies the spirit of the ancestor, whether he derived his surname from the sun or came originally from an eastern country. The priesthood is a mere magic craft, and is also associated with the worship of departed spirits.

This is the explanation given of the greatest moral power to which history bears witness. A dream taken for a reality, a ghost story, a craven fear, this is all! The sublimity of devotion, the cheerful endurance of martyrdom, the pouring out of the treasures of charity at the feet of suffering humanity, the sacred yearning of the soul after the infinite, the deep thoughts of such men as Augustine and Pascal, the rapture of the soul upborne above all transitory things, aspiration after the ideal, heart-sorrow for sin, tears that will not be dried, the craving for pardon and for righteousness—all these, we are told, are the result of the wild dream of a savage with brain bewildered by the hunting-feast. Thus all that is grandest, most thrilling in

history is to be traced back to the vapours of a morbid brain. The disproportion between the fact to be explained and the explanation is self-evident. But we must not rest satisfied with this general refutation. We must meet our opponent in closer conflict on his own ground.

The whole of Herbert Spencer's theory rests upon the identification of the savage with primeval man. But he himself acknowledges explicitly that the distance between the one and the other may be great. He says: "There are sundry reasons for suspecting that existing men of the lowest types, forming social groups of the simplest kinds, do not exemplify men as they originally were."[1] Again, as Max Müller observes, nothing is more difficult than to verify the religious creeds of savages. They have no fixed traditions or symbols, and they often refuse to make known their beliefs. The analogy between the savage and the child is in many respects erroneous. The savage, who has to provide the means of sustenance and self-defence, possesses qualities of reasoning and forethought which are wanting in the child. He has a keen faculty of observation, which prevents his falling into the senseless delusions ascribed to him.

That the effort to get at the reason of things, by abstraction and generalisation, and by transforming into laws the facts supplied by sensation, is found in the savage as described by Herbert Spencer, is a fact abundantly proved by evidence which we need not now examine in detail. We will simply draw attention to the contradictions in Herbert Spencer's own theory. According to him, this savage, all whose beliefs and ideas are derived from associated sense-perceptions, does not rest in the contemplation of the sun, setting to rise again, but derives from this fact a law of metamorphosis applicable to universal life. He draws similar conclusions from the transformation of the tadpole and the caterpillar, and of the grain of corn into the ear. From these particular transformations he argues a general transformation. He says: "I too shall be like the

[1] "Principles of Sociology," Herbert Spencer, p. 106.

chrysalis, I shall be laid in the grave, as in a dark and narrow shroud, but I shall come forth again like the butterfly which flits over the fields." Here is something very different from mere inference, which advances step by step, creeping from one particular instance to another. Here the mind rises at a bound, from the general to the universal, to a law. The mere succession of sensations will never give such an idea. We observe the same faculty of generalising, universalising, and reasoning by connecting cause and effect, in the conclusion which Herbert Spencer makes the savage draw from his dream of the chase.

It is not so simple a thing as Herbert Spencer assumes it to be, to arrive at the notion of the *other self*, and to build up upon this frail basis the idea of another existence independent of the material frame. The dog also dreams of the chase, but he only barks at his imaginary prey. To conclude from his dream the independence of one part of his proper being in relation to the body lying stretched in slumber, to recognise not only for himself, but for all his fellows, the possibility of another life than the common life of earth, and hence to argue a future life, whatever it may be, implies a complicated use of the reason, and great boldness of thought in the explanation of death. It cannot be said that the fact of having seen his shadow projected on the ground has sufficed to convey to the savage, by a mere visual impression, the idea of the *other self* or of the life beyond. Visual sensation shows the shadow to be inseparable from the body. In order to separate it, to make of it a distinct being, something more than the sense-perception is needed; there must be reasoning. By generalising particular facts so as to derive from them the idea of an existence after death, we rise from the particular (to which sensation is always limited) to the universal, which reason alone perceives. Thus Herbert Spencer's savage is not true to his theory of him; his ideas are not derived wholly from external things, he has added a great deal of his own in forming the notions ascribed to him, which go so far beyond the mere tangible facts.

These ideas of the untutored mind, derived, as it seems to us, from such insufficient premisses, crop up in all parts of Herbert Spencer's system. In order to divest religion of any specific character, distinguishing it from ideas acquired by sense-perceptions, he represents it as an error of the senses. The savage believes that his *other self* has been hunting while he slept; that his shadow is identical with that other self; and lastly, that death merely benumbs the faculties like syncope or catalepsy. He is no more religious when he believes that spirits continue to exist after death in another region and exert an influence for good or ill upon this world, than he would be religious in admitting the existence of some gigantic animal like the hippopotamus or the rhinoceros on seeing it for the first time. The distinctive, specific element of religion is entirely ignored. But in order to justify this theory, Herbert Spencer is bound to show that, as a matter of fact, the savage knows no distinction between the natural and the supernatural, and that he puts upon the same level all the phenomena which astonish him. Now this is not the case, as Herbert Spencer himself affirms. He says: "Any display of bodily energy passing that which was ordinary naturally raised in the minds of observers the suspicion either that there was possession by a supernatural being or that a supernatural being in disguise was before them. Extraordinary power of mind is of course to be similarly explained."[1] What does this mean, if not that the savage distinguishes between the ordinary natural order and a higher order which astonishes him and passes his comprehension? Hence he worships that which belongs to this higher order. To worship is to make the broadest possible distinction between the ordinary and the extraordinary; it is to constitute a transcendental order. The savage does not deify all plants, all animals; he chooses out some which are often no more wonderful than the rest; but he incorporates with them a sense of the transcendent, the supernatural, the divine, derived

[1] "Principles of Sociology," p. 254.

not from them but from himself. We do not say that the manifestations of the forces of nature do not aid in awakening this higher sense; but man would not deify them if he had not in himself the intuition of the divine.

Let us look still more closely into this assumed origin of the *other self*, leading to the apotheosis of shadows and of all that they inform, from the celestial bodies to animals, plants, and stones. The dream of the chase would not have the importance attached to it, unless the savage really confounded his dream with actual fact. Now this has never been proved to be the case. The dream may indeed unquestionably sometimes assume the character of a vision in which reappear the forms of the departed; we see no difficulty in supposing that such visions exert an influence on the belief in immortality; but they do not suggest the idea of the *other self*. The savage knows very well what it is to dream. "I dreamed of my brother," says a Zulu, quoted by Herbert Spencer. He was conscious, then, that the dreaming was different from the waking state. Obviously he did not identify things done by him in the day with those which passed before him in his sleep, else he would not have said: "I dreamed."

Further: for the dream really to give the idea of the *other self* and to be the sole cause of a belief in the future life, it must be possible to prove the reality of this notion of man's *double*. But the belief in immortality is always accompanied by a deep sense of the identity of the living with the dead. All funereal rites among savages imply this, since they consist largely in surrounding the dead with all that he loved and preferred in the earthly life, so that he may be able to carry it on. The respect for the corpse which expresses the long-cherished thought of immortality connected with the mortal remains, is irreconcilable with the theory of the *other self*. Herbert Spencer tries to bring out the fact that the savage regards the future life as one with the present. The more evidence he brings of this consciousness of personal identity after death, the more does

he lessen the importance of his own hypothesis of the *other self*, on which however he bases his whole explanation of religion as growing out of a dream.

We are led still more certainly to the same conclusion if we probe to the bottom this idea of the other life, the life beyond, even in the crude form in which Herbert Spencer presents it. It is illuminated, even in the breast of the rudest savage, by a faint glimmering of the moral idea. We are told that he commonly believes the resurrection to depend on his conduct in this life.[1] The after-life is considered by some savage races to be the reward of bravery. Would it be possible to show more clearly that in both lives the ego is one and the same, since our merits or demerits in this life determine our state in the other? We have here more than the proof of the persistent identity of the human person; we get a new and deep insight into the very essence of religion. We observe the close bond which unites the moral and the religious ideas, as soon as the conception of the divine manifests itself.

It appears to us that after this discussion we are justified in concluding that it is from the depths of his own nature, and not from the outer world, that man has derived the idea and the sense of the divine, and that it is only after thus apprehending it in himself that he is capable of recognising it in nature. If he had not found it in himself, he would have found it nowhere else. No external revelation could give him the idea, for he would be incapable of comprehending it; the very voice of God would be to him only as a tinkling cymbal, without that inner Word which is, so to speak, the utterance of the ineffable Name in unison by all his highest faculties, moral and speculative.

This inward revelation, which results from the very constitution of man's nature, in no way excludes the historical revelation; on the contrary, it alone renders it possible, with the understanding that this historical revelation is never to be

[1] "Principles of Sociology," p. 198.

regarded as a purely external authority, having no correspondence with our intellectual and moral nature, for then it would only be another phase of transformism, deriving our higher life from external sources. There is nothing to prevent erring humanity from receiving new light; or rather, man, separated from God, may be brought back to Him by the living communications of His love. Only, in order to receive the light, the adaptation of the eye is needed, and this adaptation is that very intuition of the divine, which comes from within, not from without, and which we are fain to discern even in the most degraded specimens of humanity. Into these depths of degradation we must now look, in order to see what the primeval man really was in whom we are supposed to find irrefragable proof of the primitive animalism out of which we have arisen. We shall no longer content ourselves with the abstract type of the savage held up to our gaze by the leader of the English transformist school. We shall interrogate travellers and missionaries, whose records represent the real state of nations not yet civilised

CHAPTER IV

THE SAVAGE AND PRIMEVAL MAN.

THE splendid development of human culture is universally recognised. That which is called in question is, that this development is anything more than the perfecting of our physical organism. "Scratch the savage," it is said, changing slightly an impertinent *bon mot* about a great European nation, "and you will find the monkey." Materialism starts by asserting that man is merely an animal. These assertions are based upon two arguments from fact, supposed to be irresistible.

The first is drawn from the life of uncivilised nations, which are identified with primitive humanity by the animal nature attributed to them. The second is based upon the marvellous discoveries made of late years, of the men who dwelt in caves long before the historic age began. We have therefore to consider successively the savage and the troglodyte, and to see what evidence relating to primeval man we gather from an impartial investigation of the facts. We have to ascertain whether our civilisation, with all its intellectual and artistic development, moral and religious, is really only a brilliant disguise, beneath which it would be easy to discover the anthropoid, but little removed from his rude primeval state.

We shall turn our attention, first, to savage nations, stating the case and the arguments as briefly as possible.

I. SAVAGE NATIONS.

We must at the outset explain the fundamental thesis of the transformist or merely materialistic school, in reference to

savage nations. This has been fully set forth in the writings of Mr. Tylor and Sir John Lubbock, which contain on every page applications of Herbert Spencer's theories on the origin of religion.[1] The same school is represented in France by M. Letourneau and MM. Hovelacque and Girard de Rialhe, as also by the numerous publications of the Anthropological Society of Paris, in all of which we trace very distinctly the influence of M. Broca.[2]

The solutions of the materialistic school have been gravely called in question by M. Quatrefages,[3] with his usual scientific accuracy and impartiality. The principles of Waitz' great work on anthropology[4] still hold good, though more modern works may contain fuller expositions of facts. Supplemented by the reports of missionaries of all communions, these principles will supply us with a solid basis for argument.

The naturalistic school in all its branches is agreed in referring the development of humanity to the influences of the outer world, and in rejecting altogether intellectual and moral intuition. It begins by establishing that savage life, which it assimilates on all points to that of the beast, is in no degree a degeneration; on the contrary, that it really represents to us the primeval state of our race. We shall show presently that, even reduced to its incontestable elements, savage life is still human, and contains in germ the highest future developments. For the present we have to ask whether it is true that in that life we discover no signs of degeneracy. Mr. Tylor, in order to establish his thesis, lays stress on the fact that civilised life has never been known to relapse into barbarism. This assertion is much too sweeping. Mr. Tylor himself recognises the

[1] "Primitive Culture," Edward B. Tylor. "Origin of Civilisation: Mental and Social Condition of Savages," Sir John Lubbock.

[2] "La Sociologie d'après l'Éthnographie," Charles Letourneau. "La Mythologie Comparée," Girard de Rialhe. See also "Der Fetichismus," Schulze.

[3] "L'Espèce Humaine." Quatrefages.

[4] "Anthropologie der Naturvölker." Theodor Waitz.

possibility of such partial lapses in the case of particular tribes.[1] He is far from having proved that the traces of civilisation which we find, whether in the great hunting grounds of the savages of South America, or in the Indies, are due to the intervention of a superior race, as is the case, for example, with the Baptisters among the Esquimaux, who are evidently of Christian origin. Many facts go to establish the possibility of a social decadence in a race once civilised; and this decadence is observable not only in individual cases but among whole groups, under the influence of a change of environment. Thus the Basutos of South Africa became, in 1832, cannibals for the time, so deeply had they sunk back into barbarism as the result of terrible wars, previous to which they had reached a much higher level.[2] The numerous examples quoted by Waitz leave no doubt as to the possibility of this degeneration. He holds that the sudden isolation of societies, great or small, the interruption of all commercial relations with the mother-country, and the influence of a barbarous environment, are enough to produce radical changes in the immediate descendants of a nation far advanced in civilisation.[3] A Spanish colony on the plains of Cordova, upon the confines of the Argentine Republic, has been known to become in all points like the Indian tribes around it. The same remark applies to the numerous colonies of Creoles in the adjoining districts, and to the Brazilians living upon the frontiers. The descendants of the Portuguese settled at Sertajo and at Goyaz have fallen as low as the worst tribes of savages.[4] If it is said that this degeneration is owing to the mingling of blood, we simply refer to the traces of superstition and barbarism which Tylor enumerates so complacently as existing among civilised nations, even where there has been no commingling with other races.[5]

1 "Primitive Culture," E. B. Tylor, vol. i., chap. ii.
2 "Les Bassoutos. Vingt-trois Années au Sud de l'Afrique." Casalis.
3 "Ethnologie der Naturvölker," Waitz, vol. i., pp. 368–370.
4 *Ibid.*, p. 370. 5 "Primitive Culture," Tylor, vol. i., chap. iii.

It is certain that the development of a nation, a race, or a tribe, depends on many and various conditions, which amply explain either its progress, its stationary condition, or its deterioration. These conditions have been summed up by Waitz under four heads: First, climate; second, food and manner of life; third, greater or less intellectual culture; fourth, the spontaneous production and transmission by inheritance of new physical and intellectual predispositions, due in great part to individual influences.[1] These conditions are not independent of one another; they become more operative in proportion to the intellectual culture attained. It follows that the moral and social development of a nation is due to its history. It depends on the environment it has chosen, and also on the aptitudes manifested and exercised, and lastly on the individualities produced. A new migration, by whatever circumstances it is brought about, must inevitably modify it profoundly at the time, whether for better or for worse. We are not justified then in positively inferring, as M. Hovelacque does, the original state of savage races from their present degradation. Notable changes may have taken place since the commencement of their history, as we are bound to admit if we hold the unity of the race. We recognise, indeed, a period of rude infancy for humanity; but there is no evidence that this rude infancy resembled the degrading barbarism of the inhabitants of Terra del Fuego, which we are told represents the state of primeval man. Such barbarism may assuredly be an instance of degraded humanity. We shall see presently how far the cave-man was superior to the Melanesian or the Papuan. If we can prove this, we shall have shaken one of Mr. Tylor's great arguments against the idea of degeneration.

Experimental psychology alone shows that this is possible. Every man knows that he can degenerate and go back morally; and every historian admits that in fully civilised society we find races and generations lapsing into irremediable decay.

[1] "Ethnologie der Naturvölker." Waitz.

History is strewn with ruins. Progress is not arrested for any length of time, if we take the race as a whole; but on its march it leaves fallen by the way, not only refractory individuals, but whole nations. We must not make these laggards the hands on the dial-plate of humanity, nor can they be taken as fairly representing the characteristics of any age.[1]

The supposed evolution of savage life, as described by the naturalistic school, who assume it to represent the first stage in the development of humanity, has two great faults; it begins too low, and it rises too high; for it is impossible to explain the progress which it asserts that humanity has made, if it began in a merely brutal life. What, in fact, is the origin of this evolution which has produced the civilisation of to-day? According to M. Letourneau, it is nothing else than the progressive development, under various stimuli, of the mere life of the senses, which begins with the necessities of nutrition and reproduction. He says: "In the mental life of man of the lower grade, we have seen the nutritive appetites dominating, drowning, and stifling all others. In all races primeval man is a sort of wild beast, whose absorbing idea is to appease his hunger, to capture and devour his prey."[2] M. Letourneau endeavours in his book on Sociology to show how this wild beast invents art and industry, founds families by learning to control the sexual passion, and finally organises the State. "The ethnic group goes on increasing till the government of human societies becomes a science, with its special processes and its purposed object, which is the amelioration of the species in a physical, moral, and intellectual point of view."[3]

We see how wide an interval there is between the starting-point and the term of this evolution, and how impossible it is to explain how so magnificent a growth should spring from so poor a germ. The truth is, that the germ is purposely de-

[1] "Primeval Man." Duke of Argyll.
[2] "Sociologie," Letourneau, p. 563.
[3] *Ibid.*, p. 566.

preciated by the naturalistic school, in opposition to the most patent facts, which M. Letourneau himself cannot wholly ignore. It is true that he regards the religious element (which he admits is traceable in the most remote past of history) as a radical imperfection, from which progress is to free us.[1] Mr. Tylor is less positive on this point, for he makes religion an element in the normal evolution of humanity. Primeval man, or the savage, he nevertheless holds to be entirely assimilated to the brute. His elementary industry is all borrowed from nature, which puts in his way flints more or less shaped by accident, which may serve him for knives or arrows. Being altogether a creature of the senses, incapable of distinguishing between the subject and the object, he projects in some way his own life upon nature. He believes that nature is animated as he is by that breath of life or spirit which he has learnt to distinguish from his body, whether by watching his own shadow stretched before him, or by feeling himself released for a moment from his physical life in the illusions of a dream. This first manifestation of the religious sentiment in the savage Mr. Tylor calls *animism*.[2] Perpetually confounding, as the savage does, the natural and the supernatural, he recognises this vital breath, this universal spirit, in all the phenomena of nature, whose action is sometimes beneficent, sometimes harmful, first in animals and plants, and afterwards in the stars. He sees it concentrated in his fetish; hence he worships even while he fears it, and tries to appease it by offerings. The sun, the moon, the stars, become for him the greatest of fetishes. Disposed to fashion things and beings upon his own model, he creates to himself male and female deities. Thus out of animism he rises, first to fetishism and then to anthropomorphism, which opens before him an indefinite sphere for the production of myths.

Mythology is only a magnified repetition of human history.

[1] "Sociologie," Letourneau, p. 301.

[2] "Primitive Culture," E. B. Tylor, vol. i., chap. xi.

Imagination labours unceasingly over this theme. A metaphor is enough to give birth to a new myth. The great planetary gods do not prevent the thick peopling of air, earth, and water with inferior deities, which have become gradually disengaged from the material object or fetish. Fetishism leads to a sort of spiritualism, which is developed concurrently with the adoration of the great planetary gods, and personifies the forces of nature alternately under their beneficent and maleficent aspect. Hence the polytheistic dualism which has almost universally led man to entertain the notion of one supreme God controlling the multitude of deities of every sort, but yet never soaring above the circle of nature. Thought, in rising to monotheism, is content to follow this method of simplification and unification, which is the law of its evolution.[1] Animism has not only produced the gods; it has also developed the idea of a future life, which presents itself sometimes under the form of metempsychosis, sometimes under that of an existence beyond the grave in the dim phantom state.[2] Hence arose the worship of ancestors; sometimes their spirit is transfused by mythology into the greatest of the planetary gods. We may add, that Mr. Tylor completely ignores the moral sentiment in his elaborate account of the development of religion among savage peoples.

We see how closely these explanations of Mr. Tylor's approach those of Herbert Spencer. The refutation which we have attempted of the system of the leader of the English transformist school will greatly simplify our present task, without, however, rendering it unnecessary; for, on the one hand, Mr. Tylor has on more than one point supplemented Herbert Spencer, and on the other he takes his stand on much fuller documentary evidence drawn from the narratives of modern travellers.

Without insisting again on the impossibility of deriving

[1] "Primitive Culture," E. B. Tylor, vol. ii., chap. xvii.

[2] *Ibid.*, chaps. xii., xiii.

from a mere illusion so large a development as religion in the monotheistic form presents, and of connecting all this with a simple phenomenon of sensation, such as a man's seeing his double in a dream, we shall attempt to show that the savage is, from an intellectual, social, and religious point of view, infinitely superior to the description given of him by Mr. Tylor. We shall derive our leading proofs from his own book. We accept, in great part, the facts he has so ably grouped, only we think they ought to be differently interpreted.

First of all, we note one great result obtained, as it seems to us, from Mr. Tylor's investigation, namely, that religion is a universal fact recognisable among the lowest savages. His assertions leave no doubt at all on this point. He says: "So far as I can judge from the immense mass of accessible evidence, we have to admit that the belief in spiritual beings appears among all low races with whom we have attained to thoroughly intimate acquaintance." [1]

This is directly antagonistic to the assertion of our French materialists, "that the religious idea is entirely absent in the lowest grade of savagedom." [2] Let us make our meaning quite clear. If, as Waitz observes, we mean by religion faith more or less logical in a deity, it would be easy to show that no such faith is to be found among the Australians or the inhabitants of Terra del Fuego. But if religion is recognisable wherever there is a vague intuition of a mysterious power upon whom man depends, and who manifests himself in nature or by nature, there is no place in the world where the influence of this intuition is not felt.[3]

It is idle to assert, as Mr. Tylor does, that this sense of the divine is one with universal animism, and that, by the fact

[1] "Primitive Culture," E. B. Tylor, vol. i., p. 384.

[2] "Débuts de l'Humanité," p. 81. The author contradicts himself in the same chapter; for he speaks of men looked upon as divine by the lowest savages, and describes their funeral rites.

[3] "Anthropologie," Waitz, vol. i., p. 322.

that it ignores all distinction between the natural and the supernatural, it becomes simply a certain mode of conceiving of things in general.[1] It is enough that we find in the lowest savages the tendency to adore an invisible power in special manifestations, in order to establish that here is something more than the mere operation of the ordinary forces of nature. The mere fact of adoring, as we have already observed, implies faith in the supernatural, in the extraordinary; for the savage does not worship every being, he does not always worship. He feels then that there is something which is above and beyond his mere physical life, something which controls him and can influence him for good or evil.

Undoubtedly he finds this higher, transcendent something first in himself, in that spirit of life which animates him, and which is distinct from his body, since under certain circumstances it quits his body as in dreams, and reappears after his death. This distinction, which is the basis of animism, rests upon a sublime intuition; however strange may be its legendary form, far from being a mere vulgar belief in spirits, it carries within it the foreshadowing of true spiritualism. We are constrained to admire the intellectual instinct which makes the savage believe that the outer world has its double in a wholly spiritual world, sustaining and permeating it, and that every being has his spirit, that is to say his ideal, invisible side. This elementary Platonism can only proceed from a being essentially endowed with reason, capable of rising to the general, the universal. Besides, it does not stop at this first intuition of the invisible force, the universal spirit. Anthropomorphism, which is also at the root of all the myths of savage nations, reveals to us another intuition not less profound, which we have already indicated, namely that the spirit of life in its higher form is a willing and acting personality. Doubtless, this personal life is not, in the mind of the savage, distinct from the natural life; he so far confounds them, that to him the stars are

[1] See "Mythologie Comparée." Girard de Rialhe.

veritable gods, and the sun and moon are worshipped by him as soon as he has reached that second stage of evolution which Tylor calls polytheistic anthropomorphism, to which every nation rises of necessity, if its development is not hindered or arrested. But the savage does not stop here; wherever we find him in course of development—in Asia, in the depths of African deserts, or in South America—we find that he has glimpses of monotheism, that he admits the existence of one supreme God to whom all other deities are subordinate. This supreme God may be conceived by the savage mind under the form of a sun-god; this is the mistake due to the persistence of the naturalistic element. The dualism which opposed bad to good divinities, and which was a limitation of the idea of deity, is here distinctly left behind. It is enough to believe in one supreme Deity above all other gods, to give the idea of the absolute, the infinite, at least so far as power is concerned. We must not attach too much importance to the fact that this supreme God is a planetary deity, identified with the broad heavens, since it is of the essence of animism to admit that beneath the material, finite, tangible existence, there is a life of the spirit which is invisible.

It follows that the evolution of the religious idea of the savage, as Mr. Tylor describes it, suffices to prove that it contains implicitly the constituent elements of religion in the highest sense, although they are too often represented under the form of absurd myths. Monotheism may even be associated with fetishism, as among the African tribes of the north coast; for we have already shown that the savage does not really deify the piece of wood or the animal which appears to be his god. He believes that a spirit is enshrined in it, and this spirit is a partial manifestation of the supreme Deity. He never imagines that the fetish is the receptacle of the entire divinity; on the contrary, he regards it as only a partial manifestation of it; hence his multiplication of fetishes.

The evolution of the religious idea, as described by Tylor,

is only possible in fact, if from the first it contains in germ the monotheistic idea at which it finally arrives. (We firmly believe that monotheism is really the primitive faith of mankind.) In its essence the sense of the divine implies monotheism, for it is nothing unless it is the sense of the infinite, the absolute. Man must have possessed it by nature, or he would never have sought it in outward things, after having once fallen under the dominion of nature and darkened his inward eye by placing over it the thick veil of unbridled sensualism. If in the lowest degradation of savage life we find him still seeking the divine idea, and clinging to it even in a mutilated and materialised form, it is certain that he must have originally possessed it in its grandeur. The decisive proof that it was virtually present in him under all its naturalistic disguises, is, that it never fails to free itself and to reappear spontaneously in that monotheistic faith which, as Mr. Tylor admits, is the universal conclusion of the religious evolution. It is true in this sphere, as in every other, that the greater cannot come from the less, the perfect from the imperfect. We are justified therefore in affirming that monotheism is the terminus of the mythological evolution only because it was also its starting-point. Consequently the religion of the savage is not that hideous naturalism which it is represented to be. It is not the hallucination of a purely sensuous being; it contains, often in rude forms and incoherent myths, the essence of the noblest faiths of the great religions of civilised humanity. Civilisation is not an alchemy which transmutes pebbles into gold; it brings out the precious metal from its stony matrix; but if it were not already there, the stones would be but stones still.

The existence of a primitive monotheism is a fact receiving ever fuller demonstration. It is certain that the sun and the heavens have been most frequently identified with the supreme God, but not without having been raised above their natural sphere, spiritualised and glorified, as well as humanised, for

they have always had a personality attributed to them. Among the Khonds, there is a real hierarchy of gods:—first, the multitude of local gods; then the tutelary gods of the tribes; higher still, six great deities of the rain, the chase, etc.; lastly, at the head of all, the god of the sun, *Bŭra-Pennu*, the Creator of all things. This creator-god is found among the Mexicans, the Tahitians, the Australian aborigines, the Dyaks of Borneo.[1] Many savage nations distinguish their supreme God from the sun. The Red Indians say that the Great Spirit is greater than the heavens and the stars, and that he dwells in the heavens.[2] The Zulus worship the Lord of all. The same distinction is found among the Samoyedes and the Incas. *Uiracocha* was invoked as the one who, after having given life to the sun, commands it to shine, and even protects it. *Taaora* is the supreme God of the islanders of the Pacific. He was before the heaven, the earth, and man. He has created the world and the inferior deities.[3]

This idea of the supreme God is the essence of the religion of the negroes of the Gold Coast, according to the testimony of numerous missionaries who have very carefully ascertained the true character of their fetish worship.[4] The negro considers the material world to be animated, in its whole extent, by one spirit under various manifestations, who watches over the world as with innumerable eyes and surrounds it with protection from its very cradle. This spirit enters into his fetish, though it is never wholly confined to or identified with it. The supreme God of the Gold Coast negroes is called *Njougmo*. Though he is often identified with the heavens in current speech, he is looked upon as entirely distinct from them; for on the one hand he is regarded as a personal being, and on the other, he

[1] "Primitive Culture," E. B. Tylor, vol. ii., p. 317.

[2] *Ibid.*, p. 309.

[3] *Ibid.*, p. 312.

[4] "Magazin für die Geschichte der Evangelischen Mission der Basel Gesellschaft," die Religion des Negers von Missionar Steinhäuser.

is in some sort the soul of those celestial regions whence come the vivifying heat and fertilising rain. "Every day," said a fetish man, "we see how the grass, corn, and trees are springing forth by the rain and sunshine that Njougmo sends. How should he not be the Creator?" [1] The supreme God dwells in an august calm, surrounded by his servants. He has given birth to the spirits of the air, or the *Wongs*, who serve him in heaven and on earth. They are charged to protect and to punish men, who in return lavish upon them their gifts and their homage. "Listen," say the priests, "to that which Njougmo says to you by my fetish." The negro exclaims, on receiving some remedy prescribed by his fetish, "O Father Njougmo, make this remedy effectual!" It is from the supreme God that every morning they ask for daily bread. "Grant, Father Njougmo," says the poor savage, "that I may have something to eat." He begins the day by expressing his gratitude to the god. He asks him for peace, as being the highest and oldest of the gods. "I am in the hand of Njougmo," sings the negro. "It is he who morning by morning opens the great gates of the sun." A proverb current in that district says that Njougmo created the world and was tired of it; no doubt to represent the vastness of the work. If he does not desire presents from man, it is that the *Wongs*, who receive them in his stead, are his sons. They are innumerable, and people earth, air, and water. They have wives and children, are subject to death, but then pass into the state of shades. They are arranged in a hierarchy. The principal of them dwells in the plain Sabruma, but they are found everywhere in nature, and also in the idols. In this belief in the supreme God, anthropomorphism constantly blends with naturalism. Among the Zulus, the first man, who is called Unkulunkulu, has become the ideal of the Creator, the Thunderer, the Heaven-god. [2]

[1] "Primitive Culture," E. B. Tylor, p. 315.
[2] *Ibid.*, vol. ii., p. 315.

Waitz, in summing up all that can be gathered of the religion of the negroes, says, that from north to south of Africa they worship a supreme God in addition to their numberless fetishes. His presence is revealed to them chiefly in the thunder and lightning and in the rays of the sun. Tshuku, the god of the Ibos, has created all, the black as well as the white. He never sleeps, and is invisible, although he dwells on an island.[1] According to Waitz, there are indications that the religion of the negroes has undergone important alterations, and we are thus pointed back to an older and purer type. The Ashantis worship to-day a sun-god; but there are traces among them of a far more elevated idea, for they have legends of a personal God who created all things, who is the author of all good and knows all things, even the most secret thoughts of men. He pities their misery, although the government of the world is abandoned to lower and generally malevolent deities.[2] "Among many peoples," says Waitz, "we find that in old times the religious belief was far purer than it is now. According to the legends collected by the negroes, heaven was then nearer to man, and the supreme God made Himself known to them, while now He is silent."[3] This supreme God is called by the negro, "*He who made me.*" Missionaries tell us that the negro of Western Africa is rapidly returning to this high God. "He is the old, old One, He who broke off in the beginning, the great Unkulunkulu, the Most High," says the Zulu, "I am in His hand."[4] The Basutos had preserved some relics of a purer religion in the midst of the gross fetishism which they were practising when the French missionaries came among them. They had completely lost the idea of a supreme God, and yet their legends spoke of the *Lord.* They called every being to which they offered worship *Molimo.*

[1] "Anthropologie," Waitz, vol. ii., pp. 168 sqq.
[2] *Ibid.*, p. 171. [3] *Ibid.*
[4] "Primitive Culture," Tylor, p. 284. Among the Ashantis there is a vague idea of a supreme God, or Creator.

Now *Molimo* signifies, *He who is in heaven.* There was thus a palpable contradiction between their language and the ideas received among them.[1]

We gather from all these indications that the primitive faith of the uncivilised world is really monotheism; and that fetishism, instead of being the first stage of the religious evolution, is on the contrary its first downward step. Again, this degradation is never so absolute as it is represented by the naturalistic schools, the fetishes being only partial manifestations of the deity. It follows that the human mind, even in an utterly untutored state, has the idea of the divine deeply impressed upon it. Thus Max Müller's theories of primitive monotheism are vindicated, and they are further confirmed by all we know of the first developments of the great religions of civilised races in Egypt, India, and Europe. We are justified then in concluding, as he does, that the most degraded savages possess the idea of the infinite: that is to say, of a force distinct from physical forces, acting for good or evil.[2]

The idea of a future life is inseparable from the idea of God in the credo of the savage. Whatever travesty it may have undergone, this belief throbs in the breast of the lowest Bushman, and uplifts him. "We are now prepared," says Tylor, "to investigate one of the great religious doctrines of mankind, the belief in the soul's continued existence in a life after death."[3] M. Girard de Rialhe thus adds his confirmation to what Tylor says: "The belief in something inherent in our personality, which outlives our present existence or continues it in another world, seems to be universally diffused among mankind, and to be inborn in the human mind."[4] The fact is so patent that it is needless to multiply examples. From

1 "Les Bassoutos," Casalis, p. 302.

2 "Lectures on the Growth and Origin of Religion," Max Müller, Lecture I.

3 "Primitive Culture," vol. ii., ch. xii.

4 "Mythologie Comparée," Gérard de Rialhe, p. 104.

the monuments especially designed to recall the dead, there arises among barbarous races the most powerful attestation of an imperishable life. The tomb may, indeed, hold the mortal remains of man, but it is at the same time a glorious monument of his faith in immortality. The forms of this belief are various. Sometimes it is reduced to the idea of transmigration of souls, as among the *Yarubas*, who exclaimed on the birth of a child, after having lost their first-born, "Thou art come again!" Or as among the Algonquins, who bury their children by the way-side, in the hope that they will live again in the first woman who passes by.[1] Most frequently the savage sees in the life beyond, the prolongation of the earthly life in conditions similar to those of the present, though somewhat modified. Hence his care to place beside the corpse of the deceased his tools and weapons, and hence also the barbarous custom of immolating his wives and servants that they may form his retinue. Abominable as these customs are in themselves, they show clearly that it is in the immortality of the individual that the savage believes, and not in an absorption of the soul into the bosom of nature.[2] The very manner in which burial is practised recalls, by symbols at once poetical and profound, the hope of man's palingenesis. The dead is constantly laid in the track of the sun from east to west, toward the region where the sun only sets to rise again in renewed brilliancy. The soul, in the mysterious abode to which it repairs after the earthly life, will pursue the same course. Like the divine star, it travels towards the sun-rising.[3] In other places the corpse is doubled together like the child in the mother's womb, for it also is going down into the womb of the Great Mother, only to come forth again. This rite is observed in countries that are wide apart.

It is in relation to the future life that the idea of retribution

[1] "Primitive Culture," E. B. Tylor, vol. ii., ch. xii.
[2] *Ibid.*
[3] *Ibid.*, vol. ii., ch. xviii.

finds most powerful expression, and the disputed link between the moral and religious idea becomes most apparent. Both ideas have indeed at times suffered eclipse, but even this has never been total. The moral consciousness has never ceased to give unmistakable sign of its vitality through all travesties. The feeling of moral obligation may have been falsified in its application; but the idea of duty, the categorical imperative, the essence of which is the distinction between good and evil, has no more been lost among savage nations than has religious belief. The two ideas have always met in the end, and have found common recognition in the idea of a future life. "The character of the life after death," as M. Girard de Rialhe justly observes, "is determined by the idea which the various human societies form of good and evil."[1]

If bravery is held, as among the Caribs, to be the first of virtues, it opens Paradise to all the braves of the nation, who are to dance and feast in the happy island, having their enemies fo. slaves.[2] On the other hand, the peaceful tribes of Guatemala shut the gates of Paradise upon shedders of blood. Among the Karens, the souls of the dead are supposed to assume different aspects, determined by their previous life. Sometimes they become divine spirits; sometimes they appear under the form of monstrous animals, as the punishment of murder or adultery. The good go to rejoin their ancestors; the bad, on the contrary, wander about as restless phantoms. The Dyaks believe that "as the smoke of the funeral pile of a good man rises, the soul ascends with it to the sky; and that the smoke from the pile of a wicked man descends, and his soul with it is borne down to the earth, and through it to the regions below. In Orissa, again, Khond souls have to leap across the black unfathomable river to gain a footing on the slippery Leaping Rock, where Dinga Remu, the judge of the dead, sits writing his register of all men's daily lives and actions, sending virtuous

1 "Mythologie Comparée," p. 115.

2 "Primitive Culture," E. B. Tylor, vol. iv., chap. xiii.

souls to become blessed spirits, keeping back wicked ones, and sending them to suffer their penalties in new birth on earth."[1]

This idea of future retribution is closely connected with that of immortality. Thus, in spite of all the superstitious beliefs about the life beyond the grave (which are almost all associated with the fate of the mortal remains) in spite of the faith in ghosts and apparitions, in spite of all the strange rites, designed to pacify the manes, faith in the immortal destiny of man still remains a fundamental and characteristic trait of the religion of savage races. Here again, we say, this rude superstition was not the first occupant of the soul of man. The sublime faith in immortality did not spring from so low a source, though we can easily conceive how it may have gradually sunk to be this base and grovelling thing. The bird who trails his broken pinion in the mire is not in his native element; the very structure of his wings shows he was made for flight.

The moral idea does not find its only expression among savages in their myths of a future life. It is traceable also in their very elementary psychology. The negroes of the Gold Coast call the spirit which animates man during his life *Kla*. This spirit is male or female. If male, it gives evil counsel; if female, it impels to good. To the *Kla* within, there is an answering *Kla* without, who is a sort of familiar spirit or guardian angel. Thus, these savages have heard, as we hear, the inner voice which enjoins to good. They believe that, after death, the spirit of man is called *Sisa*. Its destinies differ widely; it may remain in the phantom state, or may build itself a house in the mysterious abode of spirits. Hence it is probable that a correspondence is implied between its fate beyond the grave and what it was in the earthly life. There is much valuable information in Casalis' book on the moral ideas of the Basutos before their contact with Christian civilisation.[2] We

[1] "Primitive Culture," E. B. Tylor, vol. iv., chap. xiii., p. 86

[2] "Les Bassoutos," Casalis, chap. xv.

cannot but be struck with the elevation of many of their views. The idea of moral evil is conveyed in their language by such expressions as ugliness, debt, deficiency, powerlessness. Theft, adultery, and lying are unsparingly denounced. Their moral ideas are expressed in an original and lively fashion in their proverbs. We give a few examples. "Cunning devours its master." "There is blood in the dregs." "The thief catches himself." "Stolen goods cannot grow." "Human blood is heavy, and will not let him flee on whose hands it is." "If a man has been secretly killed, the straw of the fields will tell it." "A good name gives good sleep." On the occasion of the rite of circumcision, the young Basuto is addressed thus: "Amend thyself; be a man, fear thieving, fear adultery; honour thy father and mother; obey the chief."[1]

The naturalistic school make much of rites, as reducing religion to mere naturalism. They are not more successful in this attempt than in the others to which we have adverted. A rite consists either in prayer or sacrifice. Both elements share in the degeneracy and corruption of the moral and religious life among savage peoples. And yet, even in the most degraded state, they bear witness to the inextinguishable desire of the soul of man to seek succour from the mysterious divine power on whom he feels himself dependent, and to endeavour to propitiate that power under a bitter consciousness of having incurred its just wrath and displeasure.

Rites always bear an exact relation to the religious belief. As is the god, so is his worship in its two great manifestations —prayer and sacrifice. But the rite, like the belief, is subject to an evolution which disengages its essential elements from that which encumbers and falsifies them. Prayer, in the lowest phase of religious belief, is nothing more than a request for material good. Sacrifice is an attempt to purchase the favour of heaven by presents, or to avert the wrath of an angry power. But this stage is soon passed. Prayer becomes an outburst of

[1] "Les Bassoutos," Casalis, p. 178.

gratitude and adoration. Sacrifice is no longer simply a gift, it implies privation, suffering, the partial self-sacrifice of the offerer. Hence, it acquires an expiatory value in his eyes. Lustration expresses the deeply felt need of purification.

It is easy to follow this progress in the evolution of the religious life among savage races. The following petition of the natives of the Samoan islands is an example of the lowest form of prayer: "When the libation of kava was poured out at the evening meal, the head of the family prayed thus: 'Here is kava for you, O gods, look kindly towards this family; let it prosper and increase, and let us all be kept in health. Let our plantations be productive; let food grow, and may there be abundance of food for us your creatures. Here is kava for you, our war gods. Let there be a strong and numerous people for you in this land. Here is kava for you, O sailing gods (gods who come in Tongan canoes and foreign vessels). Do not come on shore at this place, but be pleased to depart along the ocean to some other land.'"[1] Among the Osages, prayers used not long since to be offered at daybreak to Wohkonda, the Master of Life. In an uncouth voice of plaintive piteous tone, the devotee howled such prayers as these: "Wohkonda, pity me, I am very poor; give me what I need; give me success against my enemies, that I may avenge the death of my friends. May I be able to take scalps, horses, etc.!"[2]

A Nootka Indian, preparing for war, prayed thus: "Great Quahootze, let me live, not be sick, find the enemy, not fear him, find him asleep, and kill a great many of him!" . . . The Zulus, addressing the spirits of their ancestors, think it enough to call on them without saying what they want. The mere utterance, "People of our house!" is a prayer. Fuller forms are such as these: "People of our house! Cattle! People of our house! Good luck and health! People of our

[1] "Primitive Culture," E. B. Tylor, vol. ii., chap. xviii., p. 331.
[2] *Ibid.*

house! Children!"[1] The following prayer, in which we trace a higher tone, is recorded as belonging to the native religion of semi-civilised Peru. It is addressed to the world-deity: "O Pachacamac, thou who hast existed from the beginning, and shalt exist unto the end, powerful and pitiful; art thou in the sky or in the earth, in the clouds or in the depths? Hear the voice of him who implores thee, and grant him his petition. Give us life everlasting; preserve us, and accept this our sacrifice."[2]

Prayer rises higher when it no longer expresses only the craving for a boon, but gratitude for favour granted. When the Yebu prays: "God in heaven, give me happiness and wisdom," his prayer assumes a moral character. There is a touching trustfulness in the prayers of the Khonds: "We are ignorant of what it is good to ask for. You know what is good for us. Give it to us!"[3] In the following prayer of the Aztecs for their king we catch an aspiration after divine purity and righteousness: "Let him be, O Lord, your own image. Do not let him be proud and haughty upon your throne. Do not let him do harm, act without reason and justice, and degrade your throne by iniquity." Prayers of penitence occur frequently in the Vedas, and in the early liturgical documents of Peru; hence we conclude that in some rude form they were used among the savage races.

The idea of sacrifice also becomes gradually imbued with a moral element. So long as the divinity is conceived under a purely material shape, the savage imagines that his offering is really consumed. The New Zealander, feeding the wind, cries: "Eat, O invisible one, listen to me, let that food bring you down from the sky."[4] Subsequently this ethereal god was supposed to be satisfied with the smoke of the sacrifice. Ultimately the idea of personal immolation and expiation

[1] "Primitive Culture," E. B. Tylor, vol. ii., chap. xviii., p. 332.
[2] *Ibid.*, p. 332. [3] *Ibid.*, p. 335. [4] *Ibid.*, pp. 341–343.

predominates in the sacrifice, which thus expresses the sense of guilt. M. Girard de Rialhe says: "When a fetishist people has offended some fetish, it hastens to inquire of the priest what fault it has committed, that it may expiate it by gifts and sacrifices."[1]

The priesthood in these low religions is constantly identified with divination and the magic art. Yet beneath all this we can trace the deeper idea of the priesthood, since it is regarded as a sort of mediator between the profane and the deity. "The common people pray to the fetish and offer him sacrifices; but who can be a better mediator between him and his worshippers than he who approaches nearest to the fetish?"[2] Even in this distortion of the primitive religious idea we trace the germ of the thoughts and feelings that are the glory of monotheism. The rite rudely expresses the need of purification, of reconciliation, of pardon, which lies deep down in the human soul.

The truly human character of the savage is apparent in all the other manifestations of his intellectual life as well as in his religion. That he is a reasonable being is proved by the constant use which he makes of the principle of causation, to which Mr. Tylor assigns the principal part in the formation of religious myths. The man of the desert, in conceiving these myths, is attempting, in the depths of his ignorance, to account for the concatenation of events. The arms and weapons which he contrives indicate a capacity to remember, to foresee, and to infer, which no mere animal possesses. His taste for adornment denotes the presence of the æsthetic faculty; and the rudiments of society, by which he constitutes the family and the tribe under the authority of its chief, show him to be capable of rising ultimately to that higher association, governed by law and liberty, which is the term of the social evolution. The shocking promiscuousness of the Australian natives is a monstrosity even among savages, who, if they occasionally

[1] "Mythologie Comparée," Girard de Rialhe, p. 78.
[2] *Ibid.*

lapse into such a state, soon rise out of it again. If the primeval state of man had been one of absolute abjectness and anarchy, he would never have originated the idea of law and the elements of civilisation. It is because we find these elements present even in savage life, though confused and often falsified in their application, that social development is possible to man as a process of culture. However barbarous we suppose man's original state to have been, the principles of social development must have been germinally present, even in its lowest phases. It follows that this barbarism was never utter, or it would have been irremediable; for evolution does not create, but only develops pre-existing germs. *Ex nihilo nihil.*

The evidence that the savage is truly a man lies in this, that he is capable of being educated, and of attaining even the highest stage of moral and religious development. We do not mean to say that this result always follows the attempt to educate savages, any more than such results could be predicated universally among civilised nations. There are perverse natures which turn from the light. We freely admit that it is a slow and very gradual process, to instil into a barbarous nation habits of civilisation and the principles of a truly spiritual religion. Nor must we forget how this civilisation is often represented among savage nations—how often it is only a refined barbarism which seeks to use to its own advantage races incapable of self-defence, which corrupts and slowly kills them off by the inoculation of its vices and the introduction of its worst alcoholic poisons, or exterminates them with cold-blooded cruelty. If the highest civilisation is based upon respect for law and love for mankind, if the untutored life of nature is primarily characterised by violence and the unbridled license of appetite, it may be truly said that there are no worse savages than those who buy and sell their fellow-men for kegs of brandy. The contact of an inferior race with a superior one which only shows its superiority in the fatal art of corruption,

is always fatal to the former. And yet, whenever a true love for man has animated the European in his relations with uncivilised tribes, whenever he has carried the Gospel to them in the spirit of the Gospel, he has found that the rudest savage, even the cannibal, has been capable of receiving the highest religious and moral truths. The proof that he has indeed received them, is not that he can repeat them by rote, but that he can invest them in the forms of thought habitual to him, and express them in the figurative and picturesque language which is no imported exotic, but the natural wild flower of the desert.

The history of missions, which have made such rapid and brilliant progress in our own day, supplies abundant proof of the capacity of the savage to receive education of every sort. Only a determined and blind prejudice can lead any one acquainted with the facts to say, as M. Letourneau says, that the influence of Christian missions on the inferior races is most frequently disastrous or nil.[1] M. Letourneau is so bitter in his hostility to missions that he does not hesitate to caluminate the heroic apostles of the Gospel who in our own day have sealed their devotion to the cause of the heathen with their blood. He boldly charges them with imposture. According to him, there is an understanding among all missionaries to deceive Europeans. Such assertions may be dismissed in silence; the moral consciousness pronounces its own verdict on them. M. Letourneau attacks with especial bitterness a mission particularly known to us—the mission in Basutoland. He affirms that all the progress said to have been achieved in this part of Africa is fictitious. The deception practised by the missionaries is abetted by the natives, who go through the farce of pretending conversion to carry on the joke. M. Letourneau has got his evidence from a young chief named Tsekélo, who was in Europe some time since, and who told

[1] "Science et Matérialisme," Letourneau, p. 392.

to us personally a very different tale. We would refer M. Letourneau to M. Casalis' book, "Les Bassoutos." M. Casalis was one of the brave pioneers of the African Mission, and his book is a high authority on one phase of modern anthropology. It narrates with perfect simplicity the unquestionable results of a mission slender in material resources, but strong in faith and self-devotion. It has carried intellectual and religious culture among a rude African race to such a degree that missionaries are coming forth from it, burning with zeal to bear the Gospel of Christ into the heart of Africa, to the Zambesi, following in the track of the heroic Caillard, the true successor of Livingstone. One of these native evangelists, whose father was a cannibal, has fallen under the fatigue and perils of a first exploration, praising God that his grave will be the stepping-stone of future missions.

That which is true of the Basutos is equally true of all savage tribes. Mr. Taylor, missionary in Senegal, one of our most able speakers, is a negro whose parents were kidnapped in the slave-trade. Even more eloquent than his words is his life of self-devotion. During the prevalence of the fearful epidemics which desolate our colony in Senegal, his unflinching courage has been universally recognised. Numbers of Europeans have received their dying consolation from his lips. This is one of the lesser chapters in the history of our modern mission, but it suffices to prove that the lowest savages are capable of being led up to the highest conceptions of morality and religion, and of imparting these again to their fellow-countrymen in their own idiom of thought and speech.

This higher development, then, corresponds to man's true nature, and this great monotheistic conception must have been present in him, virtually, in the rude infancy of his age and race. We gather, further, that the moral unity of man is a great reality, since the contact of the most widely differing races is fruitful of intellectual and moral, no less than of physical results.

II. The Man of the Caves and Lake-Dwellings[1]

The discovery of the Man of the Caves was an unhoped-for stroke of fortune to the materialistic school. It is adduced confidently as a proof, far more decisive than the savage, of the lowness of our origin. How, we are asked, can we recognise a creature gifted with reason in that Troglodyte, whom we find living in the recesses of his cave in the midst of the mangled limbs of the prey he is about to devour, like the wild beast in his lair, or the carrion bird over the bleaching bones of his quarry? In view of this rude being, who is unquestionably our ancestor, we are told that we must cease to speak of any interval between man and the brute. On the contrary, we hold that it was never more marked, because human intelligence was never more completely left to its own resources, to sustain the stern conflict against the forces of nature.

We know by what wonderful discoveries the anthropology of the day has arrived at the Cave-man, without the aid of any documents but a few pebbles and broken relics that had lain buried for thousands of years in dark caverns and subterraneous recesses, and the detritus of food heaped together in hopeless confusion. A few fragments of flint discovered by M. Boucher de Perthes gave the first impetus to prehistoric science. His interpretations, long contested, were ultimately received. Then followed innumerable fragments of primitive tools, stone weapons of the rudest form found in the caves of la Vézère, la Madelaine, and Solutré in France.[2] Finally, the

[1] See "Prehistoric Man," Sir John Lubbock. "Conférence sur les Troglodytes de la Vézère," M. Broca. "L'Espèce Humaine," Quatrefages. "L'Homme avant les Métaux," Joly. "Les Premiers Hommes et les Temps Préhistoriques," Marquis de Nadaillac. "Habitations des Temps Lacustres et Modernes," Frédéric Troyon. "La France aux Temps Préhistoriques," M. de Mortillet (*Bulletin de la Société Anthropologique*, October, 1871, p. 271).

[2] See in "Les Premiers Hommes et les Temps Préhistoriques," M. de Nadaillac, a detailed account of these discoveries.

"*Kjökkenmöddinger*" in Denmark, artificial hills produced by the refuse from the rude kitchens of our most remote ancestors —were added to the evidence, which was by this time beginning to be more clearly understood. In the last twenty years, such discoveries have gone on multiplying in almost all lands, both in the old and the new world.[1] In Mexico, in the alluvial beds of the Rio Juchipila, hatchets of the most ancient type have been found. Near Guanajuato, a lance of the same period, and in the valley of Mexico, knives of equally ancient date. Remains of human skeletons have been dug up from deposits evidently belonging to the quaternary period. Similar discoveries have been made in the woods of Honduras and in Connecticut. America also has its *Kjökkenmöddinger*. The hillocks left by the so-called *mound-builders*, there met with in such large numbers, seem to have a funereal and religious significance. They belong to the age of the earliest metals. The *Choulpas* of Peru and Bolivia—monuments older than the Incas—are funeral crypts which rest upon great stones and have a roof formed of enormous slabs.[2]

The fine anthropological collections brought together in the Paris Exhibition of 1878 made it abundantly evident that we have to do, not with exceptional and isolated facts, but with a long period of the general development of the race.

At the same time that the evidences of the activity of our remote ancestors were being traced far beneath the surface of our often-convulsed earth, their own remains were also discovered. Old discoveries, like that of the skull in the Neanderthal, began to assume new meaning, as they were collated with later discoveries. The principal remains found in France were a jaw-bone discovered at Moulin-Quignon by M. Boucher de

[1] We are much indebted to M. de Mortillet's able comments on these discoveries, given in connexion with the Anthropological Exhibition of 1878.

[2] "Les Premiers Hommes et les Temps Préhistoriques," M. de Nadaillac, vol. ii., chap. viii.

Perthes, and the skeleton, almost complete, of the big-boned old man, found in the cave of Croz-Magnon, in Périgord. Similar discoveries were made in caves in England, in Belgium, and at Mentone.[1] The most eminent anthropologists agreed, after prolonged discussion, in recognising the high antiquity of these fragments of weapons, tools, and human skeletons. They proved that man was living in the quaternary period, possibly in the tertiary. The latter point remains open, lacking sufficient evidence.[2] That which is beyond question is, that our remote ancestor was contemporary with the great geological crises of the quaternary period. We do not enter into the discussion of the ingenious attempts made to establish the subdivisions of the chronology of this dim antiquity, whether based upon the nature of the strata in which the human remains and tools are found, or on the progress of his workmanship, traces of which have been discovered in the various caves hitherto opened. Of this workmanship there seem to be three distinct types: first, that of the cave of St. Acheul; second, that of the Madelaine; third, that of Solutré.

These chronological divisions are of necessity somewhat arbitrary—first, because it is never certain that the superposed geological strata have not undergone some changes, and also because we sometimes find in the same caves tools and weapons belonging to different dates.[3] We shall confine ourselves to

[1] "L'Espèce Humaine," Quatrefages, chap. xxv. "L'Homme avant les Métaux," Joly, chap. ii.

[2] "The striated or incised bones found by M. Desnoyers in the neighbourhood of Chartres, like those found in the tertiary strata of Italy by M. Capillari, are insufficient to prove the handiwork of man; for it has been admitted that these incisions may have been produced by the teeth of aquatic animals. The incised flint found at Thenay by Abbé Bourgeois, in a tertiary geological stratum, leaves the question of human workmanship equally doubtful. The Anthropological Congress of Brussels, in 1872, left the question still undecided. The remains of human bones assigned to the same date are also open to doubt."—Nadaillac, vol. ii., chap. iv.; Joly, chap. viii.

[3] "Les Premiers Hommes et les Temps Préhistoriques," Nadaillac, vol i., chap. iv. See M. Mortillet's paper read at the Prehistoric Congress in

the following great divisions, which are undisputed :—First, the stone age ; second, the bronze age ; third, the iron age. It is evident that if stone implements co-existed at a certain period with those in bronze or iron, there was nevertheless a long period in which stone only was used, and in this period, an early stage in which the stone was not polished. This gives us then the palæolithic and neolithic period. It is of this period only that we shall speak in any detail, for the bronze age brings us to the threshold of the historic era, and the iron age is altogether historic. We do not enter into any of the discussions as to races said to have been discovered from the palæolithic period, the conclusions being founded on diversities of cranial formation. M. Quatrefage's book, "L'Espèce Humaine," gives exact and ample information on all these points. He distinguishes three primitive races in Europe in the prehistoric ages :—

First.—The Cronstadt race, so named from the village where the first human fossil was discovered, in 1700. The skull found in 1857 in the Neanderthal, belongs to the same type, slightly exaggerated. This race was specially characterised by the elliptical form of the cranial vault, the forehead being low and the eyebrows prominent.

Second.—The race of Croz-Magnon, with brow fully developed and a well-proportioned cranial vault.

Third.—The race of Furfooz, a Belgian district famous for its very successful excavations. This race has a retreating forehead and broad face. The two earlier races are *dolichocephalous* (or with elongated cranium), that of Furfooz is *brachycephalous* (or with narrow cranium).

It does not concern us to inquire into the differences that may have existed between these. It is certain that they crossed and intermingled in the prehistoric period, and that as a whole, the man of these remote ages, to whatever ethnographical

Brussels, 1872, and at the Scientific Association at Bordeaux, 1872. See also his paper on "La France aux Temps Préhistoriques."

branch he belongs, presents well-marked characteristic features, not varying essentially from one another. We shall look at the type of the man of the caves in the race of Croz-Magnon, which is undoubtedly of high antiquity. We shall endeavour to bring out his true and living image from these strange documents, which lay so long trodden under our feet,[1] and which alone suffice to bring up before us a past that has no history, and that was long lost in the ever-deepening darkness of bygone ages. All we aim to establish is the high antiquity of man. Formerly science was satisfied with showing how advanced was the civilisation which the fathers of the Hebrew race witnessed in the land of the Pharaohs. Egyptology discovered, year by year, new dynasties of kings, carrying back the dates far beyond the chronology wrongly supposed to be given in the Bible, which, as now understood, is no more a manual of exact dates than of exact science. What science now teaches us is, that man was living in Europe at the same time as the last antediluvian animals, in an age when the mammoth inhabited the South of France, when the reindeer was cropping the grass scorched up to-day by the burning sun of Spain, and that he was able to endure a climate altogether different from that of the last geologic era. This result is all we require, for we are not concerned to go into details which are probably still somewhat uncertain. M. de Nadaillac says: "The study of our globe, and of the various fauna which have successively lived upon it, carries back the past of our race far beyond historic tradition; but cosmography, biology, geology, and palæontology all alike fail to solve the great problem of our origin."[2]

[1] "Primitive Man." Duke of Argyll.

[2] "Les Premiers Hommes et les Temps Préhistoriques," Nadaillac, vol. ii., p. 530. It is very difficult to fix the chronology of the different strata by calculating the time necessary to the stratification or transformation of the banks of streams, because it is impossible to tell whether accidental causes have not altered the superposition of the various layers of soil.

It is enough for us to establish this high antiquity of man, separated from us not only by a vast interval of time, but also by geologic convulsions which have altogether changed the face of the earth on which we live. Yet it is from this fabulously distant past that we get testimony of more value than any manuscripts in our libraries as to the true character of prehistoric man.

The first witness we will call up from these remote ages is a piece of flint curiously marked. The nineteenth century, which alone has found the key to interpret the language of these stones, was not the first to discover them. The ploughshare had turned up more than one such relic. Popular superstition ascribed their markings to the action of lightning. The truth was far more startling. The lightning which cleft these stones had come, not out of the clouds of heaven, but from the intellect of man. It was his hand, guided by thought, which had shaped and fashioned the flint. Strange to say, it only needed that the impress of conscious toil should be recognised on this rough stone, and at once the conclusion was drawn—it is the work of mind; and yet the *savants* who so readily discern the impress of mind in this crude implement, refuse to recognise it in this vast universe, teeming with the evidence of thought!

We can hardly too much admire this Troglodyte of the olden time for the intelligence and energy he must have displayed in his transition through the geological period. In the first place, it is certain that he must have witnessed formidable cataclysms in the history of our planet. These may have been spread over a longer or shorter period, and may have been more or less severe in their character; but the changes wrought by them must have been, in any case, immense, "The quaternary, or glacial, period," says Quatrefages, "made the conditions of human existence very severe. All that then existed of the continent of Europe must have been surrounded by the sea, and subject to the consequences of an

insular climate, that is, to a very damp and tolerably uniform temperature, chilled, for the most part at least, by icebergs from the pole drifting into its neighbourhood. The heavy rains, frequent in all seasons, would change into falls of snow on the heights and would feed the vast glaciers, traces of which are discernible about our mountain chains. Great watercourses would push their way through the valleys in some directions, and in others would make great alluvial beds. This wet and storm-driven land sustained a fauna which comprised, besides some existing species, others, of which some have disappeared and some migrated to remote regions. Of the former were the mammoth, the rhinoceros with septate nostrils, the Irish elk, the cave-bear, the hyæna and tiger of the caverns; of the latter were the reindeer, the eland, the aurochs, the hippopotamus, and the lion.[1]

It was on this agitated earth, in contact with these terrible wild beasts, that a feeble creature victoriously maintained the struggle for existence, at once against the unchained forces of nature and against those mighty beasts which could have crushed him at a step. As Pascal says, one little breath of noxious vapour suffices to kill him; one small stone from the brook is enough to break this frail reed, which is at issue with the furious elements and with monsters possessing the most terrible natural weapons. And yet this reed lifts up itself and holds its head erect when the mammoth, and with him all the mightiest animals of the age have disappeared. Not only does he triumph over them, but he has outlived the cataclysms to which they succumbed because they had no faculty of adapting themselves to a change of environment. All this gives confirmation to the remarks we have already quoted from Robert Wallace as to the exceptional character of man, who, by his intellect, controls the laws of natural selection, and renders himself more and more independent of the fatality of environment. This survival of man through the glacial age in

[1] "L'Unité de l'Espèce Humaine." Quatrefages.

the very countries from which the antediluvian animals have disappeared either through death or migration, is the best proof that, long before history began, man possessed all the attributes which make him a king upon earth. Never was the disproportion between his physical weakness and the obstacles he has to surmount more strongly marked. Without the invisible energy which is in him, and which permits him to make use for himself of the forces of nature, even when they seem leagued for his destruction, he would long ago have disappeared, leaving only some paltry relics of his bones, which would have made a poor figure beside the skeletons of the monsters that he overcame.

Let it be observed that it is not a new species which appears at the end of the quaternary age, the beginning of our present geologic era. The humanity from which we spring is the direct offspring of the Troglodytes. No sensible transformation has taken place in it. The old man of Croz-Magnon has, from a physical point of view, all the characteristics of the noblest races. He is of upright stature; his hand has the delicacy of structure which makes it the subtle and docile instrument of the will. The cranium is superb, the brow lofty. It is man as we know him, where he has not undergone any serious actual degeneration.[1] He is already fully developed morally and intellectually. There is ample evidence of this in the tangible proofs of his activity, which make him live again before us; for the countless relics taken from the caves, the tombs, and the *Kjökken-möddinger* bear the clear impress of his mind and thought.

That which strikes us at once in these products of primitive industry, is the steady advance they exhibit from the palæolithic epoch to the Palafites of the Swiss lake-dwellings, before the metal age. At first, the stone is simply chipped off, as in the hatchets of the St. Acheul type, which are in the form

[1] The cranial capacity of the old man of Croz-Magnon is, according to M. Broca, 1590 cubic centimetres, that is 119 centimetres above the average obtained by M. Broca from 125 Parisian crania of the 19th century.

of an almond. Then we have the scrapers, and the triangular arrow-heads cut on one side, after the *Moustier* type. The arrows of the *Solutré* type are cut in the form of a laurel-leaf. In the Madelaine age, the bones of animals begin to be worked, as well as the stone. Lastly, in the *Rohenhausen* period we have the polished stone.[1] Similar progress is traceable in clothing and dwellings, as is shown by the pile-dwellings of the Palafites, which date from the end of the stone age. It follows that, from the earliest days, man advanced along the path of progress. The movement of history begins with prehistoric humanity. Evolution is possible so soon as man, by using his intellect, makes previous acquirements the starting-point for fresh ones. Thenceforth the fluctuating tides of sensation can no longer carry all along with them. The very fact that man makes a tool, holds in itself all his future; for before he shapes the stone against which he struck his foot, as it lay in his path, he must, under the stimulus of a want, have formed first the idea that he could make it useful by adapting it to his necessities, and then, by an induction which reason alone renders possible, he must have foreseen that, under similar circumstances, this roughly hewn flint would always answer the same purpose. Prehistoric man took possession of the future for himself and his descendants on the day when, by his own effort, he made for himself a tool or a weapon.

We refer the reader to the works of the specialists whose names we have given (and to those of Boyd-Dawkins), for a detailed description of these first instruments of man's activity —axes, hatchets, and arrow heads. The scraper was a great advance, because it was intended to prepare other tools, and really inaugurated industrial work properly so called. Numerous vestiges have been found of the existence of workshops for the manufacture of tools and weapons, belonging to the end of the palæolithic age. "How else can we explain the flints, the greater part of which seem never to have been used, still

[1] "L'Homme avant les Métaux." Joly.

covering acres of ground and lying by the side of the nuclei from which they have been detached, as at Pressigny in Indre et Loire?"[1] The needle marks another stage of progress. It shows that the hunter was no longer satisfied with throwing over his shoulders the skin of the beast he had killed. The needle serves to sew it together, and implies a process modifying the materials directly furnished by nature. It may also suggest a growing modesty.

The ashes found in the caves, the fragments of charcoal discovered beside blocks of granite of circular shape, which seem to have been intended to facilitate the rubbing together of two pieces of wood, reveal the use of fire, that great instrument of civilisation.[2] Fire seemed so precious to primitive man that he deified it. Schiller poetically calls the leaping flame, the free daughter of nature. As long as it is nothing more than this, it can render no real service to man; it burst forth only to consume him and to destroy his dwelling. As rapidly extinguished as kindled, it leaves after it nothing but smoke and ruins. But man has learnt to subdue this free daughter of nature, and to win from her her secret, so as to use it at his pleasure. No matter how he does it. The first man who, by rubbing two dry sticks together, made the sparks fly out, was the great initiator, the Prometheus of this dark world. The mode of feeding was thenceforward greatly changed and improved, and the first stone of the domestic hearth was laid. By means of fire, pottery was introduced into the cave of the Troglodyte. He was thus able to store up provisions, and became much less dependent on the daily spoils of the chase. We do not know when he learnt to grind his grain, but it was long before the period of the polished stone.[3] The Palafites are, in fact, both agriculturists and fishers. Fishing brought a large contribution to the food of primitive times. The remains of sea fish prove that there must have been daring expeditions far

[1] "L'Homme avant les Métaux," Joly, chap. ii.
[2] *Ibid.*
[3] *Ibid.*, p. 239.

from home, and the existence of a sort of trade with the maritime tribes. We are justified, then, in supposing extensive relations among different tribes, in the palæolithic age. In the caves of Solutré, the systematic heaping up of the bones of horses which had contributed to the food of its inhabitants, has led to the supposition that already some domestication of animals was practised.[1] The dwellings appear to have retained their primitive character till the time when the lake-dwellers built pile-habitations on the lakes and watercourses to secure their safety. The Troglodyte, as his name indicates, usually contented himself with adapting to his use such caves as offered him a natural shelter. Navigation was certainly known in the pre-historic age; the museums of Switzerland exhibit numbers of boats used by the lake-dwellers. To this primitive man, then, we must apply Horace's lines on the heroism of the first navigator. We ask ourselves, What sort of social life could there be in this age? Family affection manifests itself chiefly in the forms of burial, which we shall look at presently from a higher point of view. Care for the remains of the dead is only to be explained if a real bond existed among the living. We cannot but observe how far removed this bond of human affection is from the merely animal instinct which unites the male and female to their little ones. Here death has put an end to everything connected with sensation, and yet affection lives on, ennobled and purified. Families seem, even in this early age, to have been grouped under the authority of a chief, as is indicated by the carved and ornamented rods supposed to be the emblems of authority.[2] It follows that some authority was recognised in the tribe, and that it had a vague intuition of the idea of the State. It is remarkable that the symbol of command should not have been a weapon, representing force; but an almost religious emblem. We may

[1] "L'Homme avant les Métaux," Joly, p. 239.

[2] M. de Nadaillac gives in his book a beautiful picture of the rods of authority.

fairly suppose that this primitive social organisation was based upon some of those notions of justice without which no social bond is possible.

The Troglodyte, in spite of the rude conditions of his life of battle and the chase, knew also something of luxury, which it has been truly said is a necessary thing, since it gives satisfaction to those properly human desires which are not of the senses only. Luxury, taking the word in its deeper meaning, is indispensable to the creature endowed with intelligence, imagination, and sensibility, even in its lowest degree of development. Hence those primitive manifestations of the æsthetic faculties which find a simple satisfaction in dress and ornament. Rings and necklets are found in the caves of this period in great numbers. Decoration is not merely the amusement of vanity; it corresponds to that vague aspiration after the beautiful which impels man to transform the prosaic real. But the Troglodyte did more than merely adorn and ornament himself and his implements and emblems of authority. He really inaugurated art, for there is no mistaking the essential character in the designs graven or sculptured on the bones of animals killed in the chase. When pre-historic man represents in rude carving, but with no lack of graphic power, the reindeer, or the mammoth, or a hunting scene, he is not pursuing any utilitarian end. Such representations can give him only the ideal pleasure of contemplation. When the daily toil in quest of food is over, he likes to reproduce the panting beast he has been pursuing, or to revive the impression of grandeur which the stately mammoth has produced upon him. He chooses to represent such objects in nature as have most struck him, and awakened in him some sentiment of admiration. He reaches a higher stage in this primitive art, when he rudely sculptures himself triumphing over a powerful enemy, as in that admirable and expressive carving on bone, in which we see the hunter casting the fatal arrow at the mammoth. These sculptures have considerable significance from another point of

view. They show us the human intellect conscious of itself, the subject clearly distinguishing itself from the object, since man represents his own victory over the animal and over nature. He has then altogether escaped from that state of unconsciousness in which the ego is carried along in the vortex of mere sensations. Thus we find in these primitive works of art, which are, after all, only emphatic and magnified forms of human language, the proper character of that language. While the utterance of the animal is always subjective, and expresses only sensations of pleasure or of pain, human speech is objective, in this sense, that it considers the object outside of itself, as a thing to be known. These rude carvings are enough to show us that pre-historic man spoke as we speak, not only uttering mimic cries, but designating the objects themselves by a real act of the reason.[1] Some have imagined that in the carvings in the bones of reindeer, they have discovered the rudiments of a primitive system of numeration, referring probably to the results of the chase, and perhaps to the division of the spoil. If this is so, we have here an advanced exercise of the reason.

Pre-historic man was no stranger to religious feeling. All are agreed that a number of ornamental objects which are of no use in common life, must have served as amulets. An amulet is no doubt a superstitious sort of thing; but it denotes also the desire to appease some unknown, mysterious power, on whom man has always felt himself to be dependent. The signs of systematic trepanning, discovered on a large number of skulls, belonging to men who evidently survived the operation, appear also to have a religious significance. Perhaps this strange practice was in some way connected with the belief in evil spirits, which must be exorcised at all costs.[2] After the

[1] See beautiful specimens of this primitive art in M. de Nadaillac's book, vol. i., ch. xii.

[2] "Les Premiers Hommes et les Temps Préhistoriques," Nadaillac, vol. ii., p. 11.

death of the trepanned subject, a small round piece of the skull was removed and perforated, so that a cord could be passed through it, to hang it up. Sometimes it was placed by the dead man; sometimes the survivors carried it about as a charm. In the former case, as M. Broca remarks, the intention was, to restore to the dead that of which he had been before deprived—a clear indication of a belief in his revival after death.

The most striking attestation of religious feeling is in the mode of burial; for while it bears witness to the family affections, it also expresses the hope and belief of another life. Burial was first in a cave, in which the mortal remains were deposited with the favourite weapons of the deceased and some provisions. These arrangements clearly indicate a strong faith in the persistence of life and the identity of the human personality. At the end of the stone age, the sepulchral caves were replaced by tumuli, which sometimes form a whole city of the dead, in which each tomb is marked by a monolith Later again, we have the dolmens, ever increasing in size. But whether small or great, ornate or plain, the tomb always tells the same story, that it is not the end of human destinies. The grave is like a door half-opened into the region of the invisible and divine. It is like a low arch, through which we can only pass bent down to earth; but beyond which we lift ourselves up again. Quinet says: "In this primeval being, in whom I knew not whether I was to find an equal or the slave of all other creatures, the instinct of immortality reveals itself in the midst of the tokens of death. How different does he seem to me after this discovery! What a future I begin to discern in this strange animal, who scarcely knows how to build himself a better shelter than that of the beast, and yet who tries to provide eternal hospitality for his dead! I seem to touch the first stone on which rests the edifice of things human and divine. After this beginning the rest is easy to believe."[1]

[1] "La Création." Quinet.

We shall not follow the progress of pre-historic man through the Polished Stone era. It is well known that at a certain date he learnt the use of metals, beginning with bronze. It appears certain that the first stages of this evolution went on more rapidly in Asia than in Europe, for everything tends to show that it was from the East the European nations learned the art of shaping metal. The practice of cremating the dead, which coincides with the introduction of bronze into European countries, was unknown in the Stone age throughout the West, and is also of Oriental origin. As soon as man learned the use of metals, his industry made rapid strides, ample and remarkable proofs of which we have in our museums. The most important feature in connexion with the introduction of bronze is the mixture of races which it implies. It was a great era in history when the barriers were cast down between the different sections of pre-historic humanity, and when they began to co-operate in the development of the species, even through conflict and collision. These first invasions of the Oriental elements preceded the great Aryan dispersion. The East, from which came the unknown people who brought bronze into Europe, had itself passed through the palæolithic stage; but under a more genial sky, its development had been more rapid. Certain documents interpreted by comparative philology, show the Indo-European race attaining a very remarkable degree of culture at a period not yet historic, but only slightly in advance of the historic age, when the ancestors of that great and noble race were still unseparated. The original identity of the languages spoken by the nations descended from the primitive Aryans, proves that all their numerous branches sprang from a common stock. All words resembling each other, at least as to their root, in the languages of this group, belong evidently to the idiom used before the separation and dispersion of the Indo-Germanic people. These words express ideas or customs. Comparative philology thus brings before us the moral and social state of the race which is the original stock of our various European nationalities.

All that we seek at present from the stores of extensive and exact information supplied by comparative philology as to the moral and religious state of the Aryans, is evidence as to their religious ideas, for in this it is obvious we shall find the first development of the ideas and beliefs implicitly present in the consciousness of primeval man.

We have already observed, that even those who insist most strongly on an outward revelation, must admit that it would have neither sense nor value if there were no corresponding inward revelation, no predisposition of the heart to apprehend religious truth. On any other conditions outward revelation would be but a meaningless sound, words spoken to the empty air. Speak of God, of the soul, of immortality, to the most intelligent of bimanous brutes, what response will you meet? The eye only sees what it has the power of seeing; the soul only grasps truths which were previously latent in it, and after which it aspires.[1]

We do not dwell upon the information supplied from the same source, as to the advanced state of social civilisation among the primitive Aryans. Comparative philology shows that they formed a regularly organised society, under the authority of leaders who were almost always kings, and that family relations were established on a footing of due subordination, blended with affection. Their life was mainly agricultural. It was from agriculture they borrowed the metaphorical expressions used to designate family and tribal relations. The moral idea comes out very clearly in this language of the primitive Aryans; it bears unmistakably stamped upon it the effigy of conscience. Law means that which is established as an invariable rule, that which is imperishable, ordered, right. All these expressions imply obligation. Evil is a transgression of law, hence it is a fall. Punishment is not only the infliction of chastisement, but chastisement with a view to purification.

[1] See Pictet's work on the primitive Aryans, "Les Origines Indo-Européennes," 3rd vol.

Evil and sin are thus represented as a pollution, a stigma. The religious idea always borrows its symbols from the celestial light. Its first symbol, as its first personification, is the heaven, at once broad and luminous.

If the divine idea was quickly personified in the heaven, there was an even earlier personification in the mind of the primitive Aryans; for there is a distinction between the word *deva*, which designates heaven, and the word *deus*, which designates God, or the heavenly Being. This distinction marks the very essence of the religious thought, and thus brings us to primitive monotheism. Let it be observed that the natural objects which are likened to the gods are characterised in the Aryan language by some of their attributes. The earth which spreads out, the heaven which shines, the dawn which flames, the fire which is quick and agile, these are metaphorical appellations which refer to purely natural facts, quite apart from any deification of them. If from the first the Aryans had made these objects of adoration, some trace of the fact would have remained in the words which describe them, which we find on the contrary to be purely realistic. We must recognise, then, that there was a time when polytheism had no existence, although even then the language was formed—a further proof that man possessed in a confused way the idea of the divine in its majesty and unity before he incorporated it, as it were, in the grand manifestations of nature. This primordial monotheism is equally attested by the other names given to the Deity. Such names as the Lord of Creatures, the Supreme Friend, the Living Spirit, the One Mighty in will and in wisdom, the Benevolent, the Creator, may be regarded as so many epithets applied to the one God.[1]

This idea had so strong a hold of the mind of man, that it reappears in the next age, in fully-developed pantheistic polytheism. As Max Müller observes, the monotheistic idea is applied to each of the great divinities in succession, as they are

[1] See "The Hibbert Lectures, 1878," Lecture VI.

regarded to be so many manifestations of the supreme God. This he calls *henotheism*, or *kathenotheism*. We find in the Vedas a significant passage, which says that the wise give many names to the Being who is one, and whom they call *Indra*, *Mitra*, *Varuna*, *Agni*. This monotheistic idea is so persistent that in our own time a missionary, having accused a Pundit of failing into Polytheism, received this reply: "These are all only different manifestations of the one God, as the sun is reflected in the lake by a variety of images."

We are justified, then, in recognising in the most beautiful hymns of the Vedas the survival of this primitive monotheism. One Vedic poet says: "The great Lord of these worlds sees as if he were near. If a man thinks he is walking by stealth, the gods know it all. If a man stands, or walks, or rides, if he goes to lie down or to get up, what two people sitting together whisper, King Varuna knows it; he is there as a third. This earth, too, belongs to Varuna the King, and this wide sky with its ends far apart. The two seas (the sky and the ocean) are Varuna's loins; he is also contained in this small drop of water. He who should flee far beyond the sky, even he would not be rid of Varuna the King. His spies proceed from heaven towards this world—with thousand eyes they overlook this earth; King Varuna sees all this, what is between heaven and earth, and what is beyond. He has counted the twinkling of our eyes. As a player throws down the dice, He settles all things."[1]

In another Vedic hymn we read: "After Him my heart sighs, after the God who sees afar off. To Him my thoughts turn as cows to their pasture. O wise God, Thou art the ruler of all, of heaven and earth, hear me in the skies!"

If we go back to the primitive Aryans, who lived long before the singers of the Vedas, we shall find that prayer is not with them a mere magic art. It implies veneration, love, service, praise; faith signifies purity, respect.[2]

[1] "Introduction to the Science of Religion," Max Müller, p. 265.

[2] "Les Origines Indo-Européennes," Pictet, p. 467.

It would be easy to show that the same monotheistic tendency existed in the New World, among the old Peruvians and Mexicans, who, after passing through the Stone age, developed a great worship of the sun, corresponding exactly to the religious development of the Aryans. It exhibits the same spontaneous development of the embryonic religion of the palæolithic age. Prescott says: "The Peruvians recognise a Supreme Being, the Creator and Governor of the universe, and they worship him under the name of *Pachochanach*, that is to say, "*He who sustains and gives life to the world.*"[1] There was no image of this invisible being. The temple reared to him near Lima existed before the rule of the Incas.[2] The Aztecs, the ancestors of the Mexicans, believed in a supreme God, the Lord of the universe. They offered prayers to Him as the invisible, incorporeal God, by whom we live, who is everywhere present, who knows all our thoughts, and dispenses all the gifts without which man is as nothing. The remembrance of this old monotheism was retained in Mexico, as is proved by the pyramidal temple raised by King Nizah to the unknown God, the Cause of causes. There was no visible representation of Him, and the offerings brought to Him were flowers and incense. "No one has the right to command me," said a Mexican king; "there must, then, be above the sun a greater God who commands it to pursue its course without ever changing."[3]

The following exhortation, addressed by a Mexican king to his heir, shows to what a degree the moral and religious ideas had taken possession of the conscience of these old inhabitants of South America. "Receive with kindness and gentleness those who come to thee in distress. Never do or say anything in passion. Listen calmly and without weariness to the complaints and the prayers which are brought to thee. Never refuse to hear one who would speak with thee, for thou art

[1] "Conquest of Peru." Prescott.
[2] *Ibid.*, p. 1.
[3] "Der Fetichismus." F. Schultze.

the image of God to him, and God's representative. Thou art God's servant; He hears by thy ears. Punish no one without reason, for it is God who has given thee this power which thou hast to punish, that thou mayest use it justly. Administer justice without heeding the murmurers, for it is the command of God. Say not, 'I am the master, and I will make thee do what I will.' This would endanger thy power, and deprive thee of the respect of men, and lower thy dignity. Thy majesty and power are no reasons why thou shouldst exalt thyself. They ought to remind thee of thy humble origin. Yield not to effeminacy and self-indulgence. Abuse not the honest sweat of thy subjects. Abuse not for unworthy ends the favour granted thee by God. O Lord our King, Thou lookest on the heads of States, and when they prevaricate Thou dost confound them, for Thou art God, and doest as Thou wilt! . . . He holds all in His hands, and He laughs at us when we stumble."[1]

The following exhortations from a father to a son, are equally high in their moral tone: "My son, thou hast come into the light as the chicken out of the egg, and, like it, thou art preparing to fly over the world, without our knowing how long heaven may spare to us the treasure we have in thee. But what matter? Strive only to live aright, constantly asking God to protect thee. He has created and He possesses thee. He is thy Father, and loves thee better than I do. Fix thy thoughts upon Him; lift thy heart to Him by day and night. Revere those older than thyself. Be not silent to the poor and miserable; cheer them with soft words. Honour all men, especially thy parents, to whom thou owest obedience. Be not as those bad sons who, like wild beasts, honour not those who gave them life, and listen not to their counsels, for he who follows his own way will come to a bad end. Jeer not at the aged and infirm. Jeer not at those who do wrong; be humble and fear, lest thou fall like them. If thou growest rich, be not uplifted

[1] "Der Fetichismus." F. Schultze.

nor look down on the poor and sorrowful. Live by the fruit of thy own labour; this makes the bread sweet. Never lie; lying is a great sin. Never speak evil of thy neighbour. Stay not on the market longer than is necessary. Control thy senses, my son, while thou art still young, and wait till the virgin whom the gods have destined for thee comes to the flower of her age. Never steal; so doing thou wouldst bring dishonour on thy parents, whilst thou shouldst be their crown to recompense them for their care. I say no more, my son. I have fulfilled my duty as a father. I would strengthen thy heart by these exhortations. See that thou neither despise nor forget them; thy life and happiness depend on them." [1]

Such a picture of humanity carries us far enough from the Troglodyte. Yet it is the very same human nature developed into moral beauty and strength.

We pause on the threshold of history, at the very time when man has cast off the swaddling clothes of his feeble infancy. It has been our task to seek him in his savage cradle in order to find an answer to those who assert that in his origin he is nothing better than a beast. Even in this primeval state, we have found him exhibiting the same distinctive traits, endowed with intellect capable of reflexion and adaptation to his environment, with power to overcome the obstacles and dangers in his way caused by the convulsions of nature, capable of remembering, of foreseeing, of inventing tools of industry and weapons of strife. We have seen him rise from the earth, to pierce, as it were, the veil of visible things, and attest his faith in his immortal destinies, aspiring, in his way, after something greater, more beautiful than the material reality which girds him in on all sides, possessing, finally, the instinct of and the aspiration after the divine.

No doubt pre-historic man, gifted as he is with the freedom which sometimes lifts man above himself, sometimes sinks him to the level of the brute, has often behaved like a savage

[1] "Der Fetichismus." F. Schultze.

beast. He has wallowed in the blood of his fellow-creatures, he has given unbridled licence to his passions, making his intellect pander to the indulgence of his baser instincts. It is certain that cannibalism prevailed in the Stone age, probably towards the close of the palæolithic era.[1] Man remains no less a man, a true man; sometimes worse than the animal, but always different, and showing that he was made for a higher life.

Had he known this higher life in a past which defies all investigation, under conditions impossible for us to determine? Was there, as some soaring philosophers think, a beginning, in which the unity of the human race had a reality it has since lost—a time when, called, like every moral being, to pass through an initial ordeal of liberty, which implies the possibility of falling, man violated the law of the world which is also the law of his being, setting his own will above the sovereign will? This great problem does not come within the scope of our present inquiry. Suffice it to say, we know no more satisfactory solution of the origin of evil, which, unless we deny our moral consciousness, we cannot regard otherwise than as a violation of order. This is, as we hold, the deep meaning of the narrative in the first chapters of Genesis. The myth of the Garden of Eden is no fiction. It gives us in a simple poetic garb the first page of the moral history of humanity, that history whose evidence consists, not simply in a few flint stones more or less manipulated, but in that survival of a primitive divine life in the human soul, manifested in all its aspirations and regrets, and in that universal sense of a fall which throbs in all its mythologies and is the great inspiration of all its religions.

If a fragment of a skull, a desiccated bone, can tell the story of the physical organism of pre-historic man, surely the traces

[1] The mode in which some skulls are broken makes it evident that they were broken intentionally. One human skull has been discovered cleft like the crania of ruminants; there were markings on it evidently made with a flint implement.—Nadaillac, vol. ii., p. 21.

of the divine, so discernible in his soul, may suffice to tell us whence he comes. His origin is a mystery, but not a mystery of shame and humiliation, but a mystery of glory and grandeur. Truly does the poet say of man that—

> "Trailing clouds of glory does he come
> From heaven, which is his home."

The old Greek etymology, given by Max Müller, corresponds perfectly with the reality of his being, "Man is ὁ ἄνα ἀθρῶν, he who looks upwards; and certain it is that what makes man man, is that he alone can turn his face to heaven."[1]

God is the Father of life, the free and intelligent Cause of this cosmos in which His perfections are so clearly seen; or, if it is not so, we must deny, not only the principle of causation, but reason itself, and admit that the greater comes from the less. God is the supreme good, the moral perfection, whose impress is graven on our inmost being; or, if it is not so, moral obligation is swept away, and with it conscience, and we are reduced to the paralogism that the effect is greater than the cause, for the idea of good is in us, and yet there is no real good anywhere. Man is the son of that God whose bright image is reflected in his thought, his heart, his reason; or else he is the prey of the vainest and most cruel of illusions. Lastly, he is conscious that this image has become tarnished in him; but he aspires to the restoration of his true nature. The very warmth of this aspiration suffices to justify his hope; for the Infinite Being must be cruel indeed, if He could enkindle such a hope only to quench it. The painful effort, ever and again renewed by humanity, to find out God, must needs be at length successful according to that sublime utterance which Pascal puts into the mouth of God: "*Thou wouldst not seek Me if thou hadst not found Me.*"

The sacred sorrow, which consumes humanity, is the seal of a divine promise in the heart of man. History is not a cruel

[1] "Lectures on the Science of Religion," p. 18.

jest, joyless and hopeless; it is the upward striving of a race tending to its full restoration. This is the faith which science permits, which conscience commands, which the heart craves; and the substance of this faith man grasps already by a sublime anticipation, founded on something higher and surer than any warrant of outward authority.

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